

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 827.---Vol. XXI.]

LONDON, SATURDAY, JUNE 28, 1851.

[PRICE 6D.]

IMPORTANT SALE OF VALUABLE MACHINERY, TOOLS, &c., AT THE CLARENCE FOUNDRY, LIVERPOOL.

MR. T. M. FISHER AND SON will SELL, BY AUCTION, on Wednesday, the 2d of July, and 33 following days (Saturdays excepted), on the Premises, at Eleven o'clock in the forenoon, each day, all the valuable

MACHINERY, TOOLS, AND STOCK IN TRADE,

of that extensive establishment, consisting of THREE HIGH-PRESSURE and ONE CONDENSING STEAM-ENGINES, with boilers, cylinders, pipes, &c., varying in power from 8 to 30 horse each.

TWO large and powerful horizontal BORING MILLS, the largest capable of boring cylinders 120 inches diameter, 14 feet stroke, and with a face-plate 11 1/2 feet diameter, capable of turning 18 feet diameter; the other mill capable of boring cylinders 84 inches diameter, 11 ft. stroke, with a face-plate 8 1/2 feet diameter, capable of turning 12 ft. in diam. Eight slotting or key grooving machines, capable of slotting on the largest size, 3 feet 6 inches deep, and 10 feet 6 inches diameter, down to the smallest articles on the smallest sizes, with self-acting slides in every direction: 15 planing machines, adapted for all kinds of marine, locomotive, and general engineering work, with capability to plane from 10 feet broad, 16 feet long, and 3 feet 9 inches high, on the largest, down to the smallest sizes; 2 large vertical boring mills, capable of boring 3 feet diameter and 3 feet deep, with tables, slides, &c.: 74 turning lathes, varying in size from 6 inches to 3 feet 6 inches in diameter, and consisting of all varieties of lathes—viz.: Heavy slide lathes for marine and locomotive work, Whitworth's slide screw-cutting lathes, 15-inch and 10-inch heads, with change wheels; back geared and single speed lathes, with beds varying from 4 feet 6 inches to 30 feet in length, 20 drilling machines, various sizes, 6 nibbling machines, 3 screwing machines, 2 nut-cutting machines, 6 punching machines, patent riveting machine, rivet and washer-making machine, bar cutting machine, 7 crabs, Nasmyth's steam hammer, 73 anvil fire, with all the tools, cranes, and anvils in connection with them, 13 large and powerful foundry and erecting shop cranes, 7 travelling crab winches, 6 portable pillar and wall cranes, grinding and glazing apparatus, iron and brass foundry tools and utensils, weighing machines, loam mill, hydraulic presses, lorries, carts, wheelbarrows, and a most extensive and valuable assortment of patterns and plans of every description of engine and mill-work generally, including saw-mills, sugar-mills, rolling-mills, dredging machines, &c., besides a great variety of machines and tools, which will be fully described in the catalogue.

The whole will be on view any day prior to the Sale.

Catalogues are now ready, and may be had on the premises, and from the auctioneers, No. 39, Princes-street, Manchester, who will forward the same, on application, by post any time before the sale.

ROYAL COOPER MINE, NEAR LEAK, STAFFORDSHIRE.

MR. WILLIAMS is instructed to DISPOSE OF ONE HUNDRED AND TWENTY-FOUR (1000ths) SHARES IN THIS MINE. The mine is 20 yards wide: one miner can cut from 1 ton to 1 1/2 ton of copper ore per week—130 tons are now lying on the bank. The seller will guarantee 15 per cent. on the first year's output, with a reasonable prospect of realising 30 the second year.—Price £12 per share.—To view specimens, and for full particulars, apply to Bell Williams, land agent, 16, Castle-street, Liverpool.

TO RAILWAY CONTRACTORS, IRONMASTERS, ENGINEERS, RAILWAY CARRIAGE AXLE AND WHEEL MANUFACTURERS, AND HAMMERED IRON MAKERS, &c.—TO BE SOLD, BY PRIVATE TREATY, OR LET, all that valuable PROPERTY, known as

THE VULCAN IRON-WORKS,

situate at WEST BROMWICH, in the county of STAFFORD, comprising, in the FORGE DEPARTMENT—Two high-pressure STEAM ENGINES, with 14 1/2-inch and 10 1/2-inch cylinders, blowing cylinder for refinery boilers, &c., complete; 3 helix, standard, bed plates, anvil, blocks, cam, carriages, brasses, &c., complete; driving wheels and shafting, 4 heating furnaces, refinery charcoal fire, 6 smith's hearths, wrought-iron cranes, 3 large and powerful cast-iron cranes, and floor-plates.—In the ENGINEERS AND BOILERMAKERS' DEPARTMENTS—Four powerful PUNCHING ENGINES and SHAPING, 10-horse high-pressure STEAM-ENGINE, with two boilers and blowing fan; 8-horse high-pressure STEAM-ENGINE and BOILER, with gearing, turning and boring lathes, with face-plates, moveable poppets, &c.; slotting machine, by Parr, Curtis, and Co., iron shafting and speed pulleys, planing machines, face-plate, and other lathes, drilling and screwing machines, wrought-iron cranes and chains, and numerous other valuable effects.

The BUILDINGS are very extensive and well-arranged, comprising boiler-sheds, engine-sheds, fitting shops, store rooms, smith's shops, roofing over forge, carpenters' shop, upper and lower offices of dwelling-house. The whole surrounded by a boundary wall, enclosing nearly 7000 square yards of land.

The property is situate near to the Stour Valley, and to the Birmingham, Wolverhampton, and Dudley Railways, now in course of construction; it is intersected by an arm of the canal, and has a basin for unloading boats within the works, and is well situated both for land and canal carriage, and would be well adapted for a goods' station upon the Stour Valley Railway.

For further particulars apply to Mr. Thomas Spencer, Tividale; Chas. Edw. Molineux, Esq., West Bromwich; or to Messrs. Robinson and Fletcher, solicitors, Dudley.

CARMARTHENSHIRE.

TO BE IMMEDIATELY SOLD, OR LET, BY PRIVATE CONTRACT, on a long lease of years, upon moderate and advantageous terms, SEVERAL VEINS OF ANTHRACITE COAL AND IRON ORE, called the "Black-band," together with THREE FARMS, in the parish of BETTWS, containing about 112 acres of land.

There are FOUR VEINS OF COAL—one is 6 feet thick, and the three others above 3 feet each, which will yield such a quantity of coals as to produce, by a royalty of 6d. per ton only, upwards of £60,000. The Black-band is about 14 inches thick, and will yield, by the like royalty, upwards of £18,150.

There are, besides, several STRATA OF RED IRON ORES on these premises, which, together with the coal, are to be taken into consideration.

These premises are on the banks of the Aman, on the alignment of the Llanelly Railroad, and within about a quarter of a mile of it, on an inclined plane; and it is believed that the South Wales Railway will form a junction with the Llanelly Railroad in the course of this year, whereby there will be a communication with all the kingdom.

There is also a QUARRY of very fine FLAGSTONES upon these lands.

For further particulars apply to Thomas Parry, Esq., or to Mr. John Williams, solicitors, Carmarthen.—Carmarthen, June 16, 1851.

TO COLLIERY OWNERS.—FOR SALE, BY PRIVATE

CONTRACT, THREE HUNDRED FATHOMS OF PUMPS, 11 1/2 to 13 1/2 inches diameter; 3 brass working barrels, 12 inches in diameter, and 10 feet 6 inches long; 1 ditto ditto, 12 inches in diameter, and 10 feet 6 inches long; 1 ditto ditto, 10 1/2 inches in diameter, and 10 feet 6 inches long. Also, bucket and clack doorpieces, spears, spear-plates, and bolts, and bottom-rods, complete, for six sets of pumps. Application to be made at the Wearmouth Colliery, Sunderland. Wearmouth Colliery, June 6, 1851.

IMPORTANT TO MINING GENTLEMEN.—TO BE SOLD, BY PRIVATE CONTRACT, a very extensive PLOT OF MINING GROUND, 10 miles in length and 4 in width; 20 years lease, of which nearly 30 years remain unexpired, at a good duty. Several mines of lead ore have been found in the ground, which are very likely to be productive; they are situate in the manor of Balmbridge, in Wensleydale, Yorkshire.—Application may be made to John Grime, Esq., of Leyburn, near Bedale; or personally to Mr. Edmund Peacock, Redmire, who will show the ground, and give all information about it.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 30th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—Malta—On the 20th and 29th of every month. CONSTANTINOPLE—On the 20th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 123, Leadenhall-street, London; and Orleans-place, Southampton.

STIRLING'S PATENT YELLOW METALS.—Adapted for SHEATHING, BOLT STAVES, BOLT NAILS, DECK NAILS, as reported on by the late Mr. Owen, Supervisor of Metals to the Admiralty; also for PROPELLERS, FRAMEWORK SCREWS, PISTONS, CYLINDERS, COCKS (particularly where there is exposure to corrosion), RAILWAY CARRIAGE AXLE BEARINGS, and for all machinery subject to friction.

Messrs. JOHNSON, 165, Buchanan-street, Glasgow.

Applications for licenses and other information to be addressed to the undersigned, ALFRED BARRETT, Bishopsgate Foundry, Skinner-street.

EXHIBITION OF 1851.—T. P. AUSTIN, proprietor of PEELE'S COFFEE-HOUSE, FLEET-STREET, begs respectfully to inform his friends and the public generally, especially those interested in the forthcoming GREAT EXHIBITION, that he has recently NEARLY DOUBLED THE SIZE OF HIS ESTABLISHMENT, which will enable him to afford increased comfort and convenience to those honouring him with their patronage. The FILES OF NEWSPAPERS and PERIODICALS, for which Peelle's Coffee-house is so celebrated, containing all the reports of the Royal Commissioners, will be available to those visiting this establishment.

* * * The Mining Journal, in addition to all Publications connected with the Mining interest, are regularly filed.

MR. JAMES CROFTS, of 4, KING-STREET, CHEAPSIDE, MINING BROKER, renews his OFFERS of SERVICE to CAPITALISTS seeking the means of SECURE INVESTMENTS, which can be made to yield an annual income of 15 to 20 per cent.

MR. CROFTS HAS SPECIALLY FOR SALE—

All-ry-Crib (10 shares)	Rocks and Troverbyn (100 shares)
Bodmin Consols (5 shares)	Royale, Look (100 shares)
Bonnyfry (40 shares)	South Tamar (40 shares)
Caistock Consols (10 shares)	Spernae Consols (30 shares)
Chyprase Consols (30 shares)	Warleggan (20 shares)
Devon and Courtenay (50 shares)	Wheal Gwulak (100 shares)
East Baleswidden (50 shares)	Wheal Lovell (3 shares)
East Wheal Josiah (40 shares)	Wheal Mary (105 shares)
Hennock (15 shares)	Wheal Providence (53 shares)
Herodfoot, 2 (1024ths) shares)	Wheal Spry (30 shares)
Lamheroo (5 shares)	Wheal Tremar (20 shares)
Livynmoles (20 shares)	Wheal Treacoll (220 shares)
Pen-y-Bank and Ergyld (100 sh.)	Wheal Vincent (750 shares, 3000ths)
Penzance Consols (50 shares)	Woodman's Well and Broadbridge

WANTED TO PURCHASE—Appledore.

The partial dullness in mining shares, and the consequent decline in prices, may be regarded as quite a temporary character, and capitalists are reminded that the safest period to make purchases is in a depressed market, especially when, as in the present case, the depreciation arises chiefly from the increased value of money.

* * * Mr. Crofts is not a dealer in shares, but transacts business only for principals.

No. 4, King-street, Cheapside, June 28, 1851.

FRANCIS'S MINING OFFICES, 7, JOHN-STREET, ADELPHI.—The great importance of the Mining Interest at the present moment renders it necessary that every means should be adopted to place its operations on the plainest and fairest foundation.

The system of representing the VALUE of MINES, by describing them as DIVIDEND or NON-DIVIDEND EATING, is by no means sufficiently explanatory of their real qualities, for it is clear that mines may come under the first denomination which, nevertheless, differ greatly in value: for instance, some continue to divide large profits for a long time, and some in like manner small profits only, whilst there are others which pay dividends, large or small, as the case may be, but only for a very limited period. The selection of mining ground also requires the greatest care, which, in most instances, can only be applied by or through agents, qualified by long and successful practical experience, combined with local geological knowledge.

Mr. MATTHEW FRANCIS, who has, during the last 30 years, without intermission, been engaged as Manager of Mines abroad, as well as in Cornwall and Wales, many of which are making large profits, takes leave to announce, that he has OPENED these OFFICES, where he may be consulted daily from Eleven till Three.

N.B.—Information supplied, without favour or prejudice, as to the present condition and prospects of all mines without distinction, as far as can be ascertained by the closest attention to the best sources of knowledge.

* * * THE TRANSFER OF MINING PROPERTY (such only as is legitimate) negotiated on satisfactory terms.

MR. JAMES NAPIER, CONSULTING CHEMIST.

Mr. J. NAPIER respectfully intimates that he ASSAYS and ANALYSES OILS and METALS, and EXAMINES SOILS and ARTICLES used in the CHEMICAL ARTS and MANUFACTURES. He may be consulted on the application of his Reports to Manufacturing purposes, and is willing to give assistance confidentially in working out Chemical Patents.—Orders and sample-parcels may be addressed to the care of Messrs. Griffin and Co., 40, Buchanan-street, Glasgow.—Hamilton-place, Partick.

MR. ALFRED SENIOR MERRY, DEALER IN COBALT AND NICKEL ORES, AND ASSAYER IN GENERAL.—Address: LEE-CRESCENT, BIRMINGHAM.

MR. JOHN DAVIES, MINING SHAREBROKER. No. 38, TOWER-BUILDINGS, TOWER-GARDEN, LIVERPOOL.

MINING SHARES.—MR. HENRY VATCHER, EXETER. OFFERS his ADVICE and ASSISTANCE to PARTIES willing to INVEST in the ABOVE SECURITIES. Two years' residence in Exeter, together with periodical visits to nearly all the Mines in Devon and Cornwall, enables him to become thoroughly acquainted with their respective merits.—Mr. VATCHER has at his command, at all times, practical and experienced agents, so that if any inspection is required, the same can be done without delay.

MINING AND RAILWAY OFFICES, No. 3, CASTLE-TERRACE, EXETER.—MR. JOHN JURY, RAILWAY and MINING SHAREBROKER, OFFERS his SERVICES to CAPITALISTS in the PURCHASE or SALE of ANY DISCREETION OF PROPERTY, and will be happy to point out a selection of such stock as appears the most eligible, from data that can only be arrived at by those who give an undivided attention to the subject.—Every information afforded (either in person or by letter) to capitalists wishing to invest or exchange their securities, and sales or purchases effected upon the best terms, and at one-half the commission usually charged.

MINING INVESTMENT.—THOMAS FULLER AND CO., 51, THREADNEEDLE-STREET, LONDON, have on hand DEVON CONSOLS NORTH: this mine is situate and adjoining the celebrated Devon Great Consols Copper Mine, having the same stratum of ground, and running parallel with and having the same great cross courses, and within a short distance of the present rich lode of these productive mines, which, with £1 paid, are now marketable at £310, and paying £44 per annum in dividends.—T. Fuller and Co. have also SHARES in Appledore Silver-Lode, Wheal Caradon Copper, Peter and Mary Tavy Consols, Whore Franco, &c., and will take pleasure in furnishing all particulars connected therewith.

MINING OFFICES, No. 75, OLD BROAD-STREET.—MR. T. P. THOMAS begs to inform his friends that he has REMOVED from No. 3, George-yard, to the ABOVE ADDRESS, where he hopes to receive a continuance of their favours.

MINING OFFICE.—3, GEORGE-YARD, LOMBARD-STREET.—Messrs. TREDNICK & CO. (formerly of Three Kings-court and 52, Threadneedle-street, London) beg to inform their numerous Friends that they have RESUMED BUSINESS at the ABOVE ADDRESS, of PURCHASING and SELLING SHARES in MINES, RAILWAYS, and other PUBLIC COMPANIES, as well as the NEGOTIATION of every description of MONETARY MATTERS, together with COMMISSION BUSINESS IN GENERAL.

MINING AND SHARE OFFICES.

MR. H. BOXALL & CO., of 1, GEORGE-YARD, LOMBARD-STREET, beg to inform the ABOVE ADDRESS, beg respectfully to solicit a CONTINUANCE of FAVOURS so liberally conferred, and at the same time to call the attention of PARTIES seeking profitable INVESTMENTS to the advantages which MINING PROPERTY offers "when judiciously selected," as compared with any other securities: it may be sufficient to state, they can be bought to pay from 15 to 25 per cent. per annum. This is a favourable time for purchasing dividend-paying stock, while greater caution was never more required than at present in selecting from the many new, "and some worthless," schemes, such as are likely to be eventually remunerative.

Our Mr. B. having become a member of the New Mining Exchange, we are in a position to do full justice to our friends, either in the PURCHASE or DISPOSAL of MINING PROPERTY. We publish a daily List of Prices of what may be termed "Active Stock," which we shall be happy to forward to any parties requiring the same.—April 1851.

MR. T. JORDAN, MINING SHARE & METAL BROKER. No. 75, OLD BROAD-STREET, CITY.

MESSRS. TREVARTON AND CO., MINING SHARE DEALERS AND BROKERS.—5, ST. JAMES'S-STREET, PALL-MALL.

MR. PEET, MINING AGENT, 48, THREADNEEDLE-STREET, is now prepared to OFFER his SERVICES in the FORMATION of MINING COMPANIES, on the Cost-book System; and also to CONDUCT the LONDON EXHIBITION of those already established. His office is advantageously situated. Satisfactory references can be given.—London, April 8, 1851.

MINES.—MOLYNEUX & CO., MINING AND GENERAL SHARE AGENTS, 34, THREADNEEDLE-STREET, 6, FINESBURY-PLACE SOUTH, and 6, WEST-STREET, FINESBURY-CIRCUS, have SHARES ON SALE in DIVIDEND-PAYING and OTHER MINES, which will ensure to CAPITALISTS the safest and most unexceptionable investment.

MOLYNEUX & CO. are grateful for past favours, beg to call the attention of their friends to their newly-occupied OFFICES, No. 34, THREADNEEDLE-STREET, where every attention will be paid to the PURCHASE or SALE of SHARES.

* * * Office hours from Ten to Four o'clock.

REGISTRY FOR THE SALE AND PURCHASE OF MINING SHARES.

DURRANT & CO., MINING SHAREBROKERS, 55, LOMBARD-STREET, LONDON.

Beg to draw the attention of Capitalists to their REGISTRY for the SALE and PURCHASE of SHARES.

Shares for Disposal.

Devon Great Consols	Wheal Mary Ann	South Caradon
Corn Brea	Wellington	Great Wheal Shela
West Caradon	West Buller	Trevelyan
Trelawny	Tolgas	Bedford United

N.B.—Statistical information furnished on British and Foreign Mines.—No CHARGE made for the registration of shares unless business be transacted.

TRUST MONEY FOR MORTGAGE.—SEVEN THOUSAND POUNDS ARE READY FOR APPROVED MORTGAGE, at the rate of 3 per cent., which may be secured to the borrower for any term not to exceed FOURTEEN YEARS.

Apply to John James Coward, Esq., Lansdowne-crescent, Bath, either personally or by letter, free of postage, who himself being one of the trustees, will only negotiate with principal.—Dated Bath, June 25, 1851.

TO DIRECTORS OF PUBLIC COMPANIES, PROPRIETORS OF MINES, &c.—A CIVIL ENGINEER, who has been actively engaged for many years in carrying on public works, both for companies and private individuals in this country, as well as abroad, is desirous of INCREASING his CONNECTION, and therefore begs to intimate that he is now ready to undertake, on very moderate terms, the CONSTRUCTION of RAILWAYS, HARBOURS, CANALS, and ROADS, the IMPROVEMENT OF RIVERS, BUILDING SEA-WALLS, the ERECTION OF LIGHT-HOUSES, and OTHER WORKS, within the range of his profession. Likewise, that he has made arrangements for EXECUTING, on an extensive scale, SURVEYING, LEVELLING, and all kinds of ENGINEERING and MECHANICAL DRAUGHTING—specimens of which he is exhibiting in the Crystal Palace in Hyde-park.

Apply by letter (post-paid) to "H. S." Esq., civil engineer, at the office of the Mining Journal, 26, Fleet-street, London.

TO EXPERIENCED MINE AGENTS.—WANTED, for an extensive LEAD MINE, about to commence working in NORTH WALES, an AGENT, capable of taking the MANAGEMENT ABOVE and BELOW the SURFACE: he must be well-versed in working Lead in all its departments, from the pickman to the smelter, with a general knowledge of the most improved machinery for pumping, crushing, &c., and be capable of laying down plans and sections of all work done, or about to be done, in the mine, with estimates of the same. Salary not so much an object as capability. None need apply but those who can bear the strictest scrutiny as to integrity and capability.—Applicants will apply by letter (post-paid) to Mr. Nicholas Ennor, Wilscombe, Somerset.

TO ENGLISH AND FOREIGN MINE OWNERS AND ADVENTURERS.—WANTED, a SITUATION, by a competent person, either in this country or abroad, as an ASSAYER or ACCOUNTANT. The Advertiser has had considerable experience for many years in a Tin and Copper Mine, both in the underground and surface departments.—Testimonials, as regards character and ability, can be obtained by addressing "R. S." Post-office, St. Blazey, Cornwall.

WANTED.—A competent MINE CAPTAIN, to undertake the MANAGEMENT of some LEAD MINES.—Application to be made (by letter only), enclosing testimonials, to Mr. John Watson, No. 13, George-yard, Lombard-street, London.

WANTED,—by a Young Man, who thoroughly understands Chemical Analysis and Assaying, a SITUATION in the LABORATORY of a CHEMICAL MANUFACTURE.—For reference apply to Dr. Richardson, practical chemist, Newcastle-on-Tyne.

WANTED TO PURCHASE, A SMALL SECOND-HAND HIGH-PRESSURE STEAM-ENGINE, from 10 to 14-horse power, with boiler, and best adapted gear for driving a circular saw.—Application to be made to Mr. William Young, Pontypool, Monmouthshire.

TO BUILDERS, &c.—PERSONS desirous of TENDERING for the ERECTION of the BUILDERS' WORK for the NEW MARKET HOUSE, BOLTON, can INSPECT the DRAWINGS, and obtain printed Specifications and Quantities at the office of the architect, Mr. G. T. Robinson, 3, Castle-street, Wolverhampton, from Monday, the 7th July, until Wednesday, the 16th July; and at the offices of the Town Clerk, Bolton, from Thursday, the 17th July, until Thursday, the 31st July. Sealed tenders to be delivered on or before the 1st of August, at the offices of Mr. J. Knowles, Town Clerk, Bolton.

TO IRONFOUNDERS, &c.—PERSONS desirous of TENDERING for the ERECTION of the IRONWORK for the NEW MARKET HOUSE, BOLTON, can INSPECT the DRAWINGS, and obtain printed Specifications and Quantities at the offices of the architect, Mr. G. T. Robinson, 3, Castle-street, Wolverhampton, from Monday, the 7th July, until Wednesday, the 16th July; and at the offices of the Town Clerk, Bolton, from Thursday, the 17th July, until Thursday, the 31st July. Sealed tenders to be delivered on or before the 1st of August, at the offices of Mr. J. Knowles, Town Clerk, Bolton.

TO MINERS.—The great utility of GUTTA PERCHA TUBING for the VENTILATION of MINES has been most satisfactorily proved.—The WEST HAM GUTTA PERCHA COMPANY supply this ARTICLE, of any regular diameter, and of the best quality, at the lowest price. Particulars of this and their other manufactures will be furnished on application by post or otherwise. West Ham, Stratford, Essex.

ON SALE, at the CAETAN-Y-GRAIG MINE, near the Westminister Mines, MOLD, a CONDENSING STEAM-ENGINE, 21-inch cylinder, 5-foot stroke, with bright hand-gear, &c., nearly new, and in excellent working condition. Also, ONE BOILER, 30 feet long and 3 ft. 9 in. diameter, with steam and feed-pipes connected to the engine.—Application to be made to Mr. William Clemence, Westminister Mines, near Mold; or to Mr. W. B. Dyer, Mold, Flintshire.—June 18, 1851.

MINING SHARES FOR SALE.—WHEAL SPRY. THIRTY SHARES in the ABOVE highly-promising MINE, upon which 15s. each has been paid, TO BE SOLD at a considerable sacrifice.—Apply, stating highest price, to "A. M. and E. S.," care of Mr. W. Dearsley, printer, Haverhill, Suffolk; or to Mr. James Crofts, sharebroker, 4, King-street, Cheapside, London.

A SMALL LEAD MINE TO BE LET, in the Township of BORROWDALE.—Apply to Mr. Fisher Crosthwaite, Postmaster, Keswick, in the county of Cumberland.

TO BE LET, for any term of years the taker may desire, a SLATE QUARRY, at WELLTOWN, within a mile of the Harbour of Boscawen, now in the occupation of Mr. Avery, of Boscawen, the proprietor, to whom applications may be made.—Boscawen, May 19, 1851.

CONSOLIDATED COPPER MINES OF COBRE ASSO-CIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this Association will be HELD at the office of the Company, 26, Austinfriars, on Tuesday, the 15th day of July next, at One o'clock precisely; and Notice is hereby also given, that at the said Half-yearly General Meeting the Election of a Director of the Company will take place, to supply the vacancy in the direction occasioned by the death of the late Sir John Pirie, Bart. Proprietors intending to offer themselves as candidates will please to give notice of such their intention, in writing, addressed to the Secretary, 14 clear days before the day of election.

By order of the Court of Directors, WM. LECKIE, Secretary.

ROYAL SANTIAGO MINING COMPANY.—The Directors hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the Office of the Company on Wednesday, the 9th of July next, at One o'clock precisely, when the Directors will make their report.

THE FOREST MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders in this Company will be HELD at the office of the Company, 29, Threadneedle-street, London, on Tuesday next, the 1st July, at Twelve o'clock at noon, when all shareholders are particularly requested to attend.—June 27, 1851. JAMES MARSHALL, Secretary.

TINCROFT MINING COMPANY.—Notice is hereby given, that the ADJOURNED GENERAL MEETING of shareholders will be HELD here on Thursday, the 17th July next, at Three o'clock precisely. Salvador-house, June 27, 1851.

WEST POLGOOTH TIN MINING COMPANY.—The SCRIP CERTIFICATES in this Company being about TO BE ISSUED, parties ENTITLED to SHARES will please ADDRESS the SECRETARY, at the OFFICES of the COMPANY, 20, St. Helen's-place, Bishopsgate, with their NAME and present ADDRESS, and NUMBER of SHARES held, that the certificates may be correctly drawn. June 19, 1851. By order of the Committee.

WHEAL TRESCOLL (near Bodmin, Cornwall).—The adventurers in the above Mine are informed that the ADJOURNED MEETING will take place at the Office of the Company, 7, George-yard, Lombard-street, on Thursday next, the 3d of July, at One o'clock precisely.—June 26, 1851.

WHEAL GOLDEN CONSOLS MINING COMPANY. THE ANNUAL MEETING of the above Company will be HELD at 26, Broad-street, London, on Wednesday, the 2d July, at Eleven o'clock in the forenoon. JOHN D. YOUNG, Secretary.

CHYPRASE CONSOLS MINE, situated in the ST. ENODER, CORNWALL.—APPLICATIONS for the FEEBLY SHARES to be made to the Purser, Mr. Thomas Lewis, 17, New Meeting-house, Birmingham; or to Augustus Yeates, Esq., solicitor to the Company, 77, New Meeting-house, Birmingham.—Prospectuses may be obtained of either of the above-named parties.

Original Correspondence.

ON THE FORMATION OF METALLIFEROUS VEINS.

SIR,—An advocate of your correspondent, Mr. Ennor, and of his theory, dating from Liverpool, complains of myself and "Argus" writing under a feigned signature, whilst he himself adopts that of "Cornishman." So much for consistency—the laudatory compliments so liberally bestowed on his friend have nothing to do with the questions at issue. He remarks upon my quoting from certain authors; but is it not better to make quotations from able and acknowledged authorities than to put before the public, like Mr. Ennor, a series of undefinable theories and assertions, in which he is borne out by no one practical fact? Amongst my friends—the "legion of practicals"—there are some of the most talented and experienced miners in the world. The "Cornishman" takes upon himself to tell us that his friend, as a practical and experienced miner, is not to be excelled. There is an old adage applicable in this instance—"Save us from our friends," &c. He touches upon delicate ground. May I ask where, when, and how Mr. Ennor obtained his great and extensive practical knowledge, and where he has been so remarkably successful in his exposition of the nature and qualities of mineral veins, and their dependence on the adjacent rocks? Should "Cornishman" find it difficult to answer these queries, I might assist him somewhat. This seems to be all the notice which his letter deserves, except I should say that I have put forth various facts in contravention of Mr. Ennor's views of "Nature's Laws" as he calls them, as to which he has either begged the questions, or omitted to notice them altogether, it may not be amiss, therefore, to take a brief review of them. What, then, are Mr. Ennor's imaginings, for they are nothing else, of "Nature's Laws," and how does he support them? He says the crust of the earth is formed and supported by a series of wedges and plugs meeting at various angles, and in all imaginable ways. Fortunately, we have only his vague authority for it; otherwise, it would be incumbent on us as a safeguard to ourselves, and a duty to posterity, to put an immediate stop to mining, lest in our operations we should accidentally remove the key wedge, and the whole system should fall to pieces. Only conceive the crash! Why "the great globe itself," nay, all which we inhabit—would dissolve.

I am rejoiced at finding my friend, Mr. Ennor, however, is not so far cracked as to presume to ascribe the origin of metalliferous veins to convulsive cracks in the crust aforesaid. He is, however, an alchemist to a certain extent, though it is true he does not go the length of the ancient ones, and pretends, by some talismanic art of his own, to transmute the baser into precious metals. No, but "Nature's laws" do it for him; and she, kind soul, according to him, is now proceeding systematically with the work, and is actually in course of transmuting the earths of aluminum, silicon, and calcium, which I have in a previous letter shown to form the earth's crust, and oxygen and hydrogen, the component parts of water, into metals as we now find them; but this in some degree clashes with your correspondent's theory of the growth of metals, which, if he were right, would seem destined, in the order of things, to fill all space. His system of transmutation would not be so disastrous in its consequences, as it would only tend to alter the nature and properties of matter, and not, probably, to increase its bulk materially. I am most willing to acknowledge that, under the control and guidance of the great beneficent Creator, through whom "we live and move, and have our being," all the operations of Nature bear the stamp of unerring wisdom and beneficence—the perfection of infinite and consummate skill for the comfort and well-being of his creatures; and I am prepared to say to your correspondent, in the language of the poet—

"All Nature is but art unknown to thee,
All chance direction, which thou canst not see;
All discord harmony not understood,
All partial evil universal good."

But when I see parties thrusting themselves before the public, and especially the practical part of the community, with their vague notions and theories, not borne out or sustained by a single palpable fact, and without any evidence but the futile imaginings of the writers, I invariably begin to think that the organ of intellect might be damaged, and desire to confront them, in order to detect a slight twinkling of the eye—a certain indication of an aberration of mind. Apropos, about alchemists. I remember being in London, a long time ago, when a gentleman was anxious to introduce me to a friend of his residing in P—square. I called on him by appointment, and he produced for my inspection certain metals, upon which he had been experimenting. I recognised a piece of platinum, which he declared to be gold, or that he could so convert it; and other metals differing as widely in colour and more in specific gravity, he likewise said was rich in the precious metal. I perceived I was in presence of an alchemist; and, readily forming my conclusions, looked for the twinkle of the eye, but on leaving, promised to repeat my call. On returning to my friend, he inquired what I thought of his friend, S. "He is mad!" was my reply. My friend thought otherwise, and observed, "Then there is great method in his madness." "Nevertheless (I remarked), he is a monomaniac; he is mad upon that particular subject." A second visit confirmed my worst suspicions. I had left with him some specimens of copper pyrites from this locality; and I found he had subjected them to some manipulations, and declared them to be rich in the precious metal. I subsequently learnt he had become an inmate of a private madhouse. If some day or other I should have the good fortune to meet with your correspondents, who have been more particularly referred to in the course of this controversy as theoretical geologists, I shall be quite disposed, from the manifest absurdities of the several theories they advocate, to look out for the twinkle. Again, in allusion to Mr. Ennor's theory of the growth of ore, it brings to my recollection an anecdote which an excellent old friend of mine used to relate with a deal of quaintness and good humour. He had seen much of life in this and most parts of the known world; but getting staid, and meeting with an old man who had known him from his youth, he was thus accosted—"Well, Capt. N., you have ever met with an instance where a lode has been abandoned, and after a number of years again resumed, that it has improved either in appearance or quality in the interim? This, or any other practical fact of a like nature, in connection with his theory, will be read with interest by—

east and west, something is wanting to prevent (to produce he means) chemical action; and hence the strata does not become mineralised; but (modest man) he does not point out a means. I will suggest one. Let him get the ground often well saturated with a solution of the sulphate of copper. There, now he practically knows something about it.

Wheal Jubilee was discovered on the Jubilee day, 1869, I think, and was very rich in antimonial copper ore within 6 ft. of the surface. A considerable amount was realised by the sale of the copper, but the antimony unfortunately was sacrificed. The engine which your correspondent tells us he was able to purchase in 1822 was from a second company; it is not, however, necessary in order to refute his theory for me to show that the mine was really a profitable one, but simply to prove that lodes at long distances from granite ranges had been productive to a considerable extent. Your correspondent finds fault with our progenitors, because in their day they failed to discover all the copper. I suppose he intends to infer that the copper has grown since their time, and he adds they had abundance of tin in the backs to guide them. He must permit me as a "practical" to tell him that although in a majority of cases it might be so, all gossan lodes do not produce tin, there was none in the backs of Crinoids, East Crinoids, or Pembroke lodes, and I believe the backs of Fowey Consols and Llanescol lodes were without it.

Your correspondent asks exultingly what is now to become of my lineal line of lodes, I answer they may be found in Gwennap in several places. I may instance as lineal lodes Wheal Comfort, Brewer, Tresavean, Treviskey and Barriar, Wheal Buller, West Buller, South Bassett, South Frances, Carn Brea, Tincroft, Cook's Kitchen, Dolcoath, Stray Park, Camborne Vein and Wheal Francis, East Pool, East Wheal Crofty, Wheal Crofty, North Roskear, Crenver, Outfield, Wheal Abraham, Wheal Sarah, and Binner Downs. I might mention many other such sections of lodes, but I conclude those I have enumerated must silence his quibbles.

In conclusion, "Verax" proposed in a recent letter that I should be exhibited in the Crystal Palace in a glass case, as a befitting specimen of a model captain of 1851. He might, I think, just as well occupy a niche hard by as a second Koh-i-noor, or mountain of light, with his friend Ennor as his satellite or little moon; but lest my suspicions, obscurely hinted at in a former part of my letter, should prove well founded, I would advise, as a grave precaution against accidents to the public, that they should, like the gem itself, be well secured in iron cages, or entangling, as I do, serious doubts of their sanity, I should not consider myself safe in their proximity, with only the brittle protection of a glass case.

Camborne, June 16.

PRACTICAL MINER.

THE NATURAL PHENOMENA OF MINERAL VEINS.

SIR,—The tumult having apparently dwindled to a calm, it is, perhaps, due to myself I should remind your readers that I was drawn into the correspondence when quietly pursuing my own inquiries; if I have attacked the magnetic or crystalline doctrine, it has been in self-defence, and whilst no one can honour practical research more than I do, it being obviously the only basis for correct inquiry, I think that in this case it has been instrumental in causing the exception to be mistaken for the rule. On reference to Mr. Ennor's letter, which appeared in your two last Journals, it will be observed that attention is pointedly drawn to certain decompositions that are now taking place in rocks, the water from which the observes would produce copper in a few days, if iron was brought in contact, and to this operation he attributes the formation of mineral veins; losing sight altogether of the fact that this is nothing more than a consequence of a first cause, or chemical action induced by the operation of air and water on matter previously formed, to the formation of which matter, and not to its decomposition, his attention should be directed, the more especially as most of our mineral veins consist of matter of the original, and not of the formation of decomposition: or, as I have already observed, the metal is in combination with a base and with an acid, a reference to which fact is cautiously avoided by all the supporters of the crystalline theory.

In my letter of the 16th inst. I also referred to the fact that the metals generally exist as a conglomerate; and recently my attention has been drawn to some specimens of refuse ore from Cornwall, but which appear rich in metal, in which the metal is not only, so to speak, in chemical combination with the component parts of the granite, but the mass presents all the appearances of a clinker, evidently the result of fusion, the cooling having apparently taken place under conditions that did not admit of crystallisation; of this material I understand there are thousands of tons from which it is intended to extract the metal. To this kind of production the practicals can be no strangers, it appears, therefore, rather strange to me, that they should avoid all reference to it in their crystalline papers; but whether the captain who rejected this material as worthless is one of their school, I cannot say. Be that as it may, or whether the ore will pay for re-working or not, it appears to me obvious that unless these several facts can be reconciled to the magnetic doctrine, the inculcation of its principles cannot fail in misdirecting those engaged in search of mineral veins; although the general rules laid down by "Cornubia" in his letter of the 18th, must have a contrary effect, and those rules I shall hereafter apply to the principles I have ventured on submitting to public consideration in my papers on "Atmospheric Influences."

Canterbury-place, Lambeth-road, June 24. FRANKLIN COXWORTHY,
Author of Electrical Condition.

ON THE FORMATION OF LODES.

SIR,—Mr. Ennor is of opinion that lodes are at present in a state of formation, and that parallel ones feed each other. Will he kindly state, if he has ever met with an instance where a lode has been abandoned, and after a number of years again resumed, that it has improved either in appearance or quality in the interim? This, or any other practical fact of a like nature, in connection with his theory, will be read with interest by—

June 26.

A LOOKER ON.

INVESTIGATION OF MINING REPORTS.

SIR,—Your Journal being an open channel for the legitimate interests of mining pursuits, and which are protected in its columns from the weak arguments of scurrilous personalities and abusive remarks, as an old investor and legitimate holder of mines, I beg to concur most cordially with the remarks of Mr. Evan Hopkins on last Saturday, as to the necessity of having a committee of qualified independent gentlemen to investigate mining reports, rectify false prices, &c. Without requiring philanthropic services, I recommend that a general subscription of some moderate amount be collected from the various mining shareholders, to appoint a suitable office, and a proper clerk at a fixed salary, to act on the committee's orders only, as well as to cover the necessary incidental expenses. The great invested capital of the county of Cornwall alone demands, and can easily afford, this protection to its interests—public confidence being fearfully affected by the present defective system.

Hammersmith, June 24.

H. ASSHE ASSHECOURT.

TINCROFT MINING COMPANY.

SIR,—Being one of those who regard the real prospects and state of a mine, rather than that fluctuating barometer, the price of shares; more as a shareholder holding on for receipt of dividends, than gambling or rigging the shares in the market, which only serves the turn of those who from time to time "bear" and "bull" the market, and who frequently get bit themselves; and having often witnessed a vast depreciation in the price of certain shares, when from the discoveries in the mine the value has actually very considerably enhanced, and, vice versa, when prospects have been gloomy in the mine the market value has shown a brilliant aspect, considerably above the real value of the property, I was induced to notice the remarks made in your Journal relative to this really valuable and richly prospective concern; and as facts at all times are better than imaginary fallacies, I venture to send you the following brief statement of "facts and figures" to use, if you think them likely to prove interesting to your readers. I have known Tincroft well for upwards of 34 years, I may say during its change of proprietary four times in that period, and have been present at the declaration of a vast amount of dividends from profits from that mine. On the 1st Aug. last the present purchaser had the honour of presiding over the ticketing at Camborne, when Tincroft sold 620 tons, at 3l. per ton average, 1860l. 12s. (the average price during 1849 having been 3l. 10s. per ton). The next sale, realised—

5th September, 651 tons, realised at 1l. 10s. per ton, say	£2999 10 0
3d October, 579 tons, 3l. 18s. per ton	2287 18 0
(The average on the quarter being 3l. 11s. 6d. per ton.)	
31st October, 628 tons, 3l. 19s. 3d. per ton	2489 2 0
5th December, 722 tons, 3l. 11s. 6d. per ton	2581 18 6
(The average for the quarter being 3l. 15s. 6d. per ton.)	
2d January, 1851, 707 tons, 3l. 14s. 9d. per ton	2623 14 6
6th February, 715 tons, 3l. 3s. 3d. per ton	2263 17 6
6th March, 613 tons, 2l. 19s. 6d. per ton	1824 3 6
(The average for the quarter being 3l. 6s. 3d. per ton.)	
3d April, 983 tons, 3l. 9s. per ton	3011 8 6
1st May, 591 tons, 3l. 17s. 6d.	2290 15 6
6th June, 651 tons, 3l. 14s.	2213 18 6

The whole of these sales average only 3l. 12s. 6d. per ton. The present sampling is 664 tons of superior ore—in fact, I have seen the assays of the various parcels, and made them up at the present standard, and the total amount is 3340l., being 5l. average per ton, for sale on Thursday, the 3d July. If this does not speak volumes, and enable parties to judge of the real state of the concern, I know not what better authority they can have. Certainly not by watching the cunning manoeuvres practised in the share market.

June 26.

ARGUS (of Truro).

TINCROFT MINING COMPANY.

SIR,—Your facetious correspondent of last week was evidently desirous of manifesting his cleverness in finding fault with the committee of investigation, although, with singular inconsistency, he sets out with a little self-praise on his own retiring modesty. Having hit upon the figure of "40 days in the wilderness," which pleased his lively fancy, he was determined to continue it, irrespective of tediousness and intricacy; he was evidently loth to part with it, and therefore continued it too long, and pursued it too far. It occurred to me that your correspondent's time and ingenuity would have been more usefully and profitably employed in offering suggestions calculated to assist the committee in the prosecution of their duties, rather than by futile attempts at wit. Their efforts have doubtless been attended with considerable difficulty, and it is generally believed that the result of their labours will bear a due proportion to the time and trouble expended therein.

The position of a committee so constituted as the one under notice is pecu-

liarily painful; they have the most inexplicable difficulties to contend with, and the most opposite interests and dispositions to conserve, and it is rather too bad that before their duties are finished, and the results thereof known, they should be attacked by ridicule and derision. The most charitable construction to place on such conduct is to consider that your correspondent was misled by a desire of flourishing on the several properties of the absurd allusion to the wilderness, which he introduced into his letter, without taking the trouble to examine whether there are any qualities in the subject to which these properties can with propriety belong. It is to be hoped, however, that he, and all earnestly interested in the Tincroft Mines, will attend the meeting whenever the committee's labours will allow of calling the shareholders together, and give that support and assistance to the report which may be proper and requisite.—ALPHA: London, June 20.

THE MINING EXCHANGE AND W. B. CALL, ESQ.

SIR,—Having seen frequently in the Journal (more particularly that of last week) letters signed by W. B. Call, Whiteford House, depreciating mines and mining in the neighbourhood of his father's country seat, I beg to call the attention of the public to the fact that the father of W. B. Call, Esq., is the surface owner of the soil in the parish of Stoke Climsland, but, unfortunately for him, the Duchy are the owners of the minerals, and as such owners can alone grant sets of their property. An antipathy to mines and mining has therefore naturally sprung up in the bosom of this young "expectant," who has no claim whatever to the dues on minerals, and who only comes into the surface of the property after his father's decease. I have often heard of ore being covered up by the servants of Sir W. Call, and have also heard they are bound to secrecy in that respect; but whether this be true or not, I think Mr. Call, before he proclaims himself a "philanthropic man," or a public protector, should divest himself of all selfish motives, as it is clear he is deeply interested in arresting mining in the neighbourhood of his father's house, and consequently is prowling about and over Kit-hill to inspect every young mine, not for the purpose of encouraging them or protecting the public, but for the purpose of picking holes and damaging mining property in public estimation, fearful that a discovery will bring a steam-engine on Whiteford lands, which he terms a nuisance. He forgets that one good mine discovered is worth more than all the lands of Sir W. Call himself, or either of his sons. A good mine does good to the whole population of a district; it relieves the poor's rates, and gives ready cash to all. Stoke Climsland has not yet been proved, but it is completely in the run of the Devon Consols lodes, and in highly mineralised strata. The adage of the ancients was, who were supposed to be good judges—

"Kit-hill well wrought,
Is worth London town twice bought."

The Great Devon Consols has been the precursor, and ere long, from the indications presenting themselves, other great mines will spring up; but I do not like the man who steps forward to crush a great and important mercantile pursuit or enterprise in order to gratify a selfish desire for a seclusive retirement on a few paltry acres of land, or the protection of a few heads of game; and ere long, for the benefit of the country at large, I hope the whole neighbourhood, notwithstanding Mr. Call's depreciations, will be covered with steam-engines. I, therefore, under all the circumstances, caution the Mining Exchange, or the public, from paying any attention to parties whose interests are so diametrically opposed to mines and mining as that of Mr. Call, and his father Sir William; and I hope to see the day when the law of primogeniture will be materially altered, as well as the game laws, for the benefit of the whole of mankind. At present these laws are a bar to all mercantile transactions and laudable pursuits—such as mining.—A MINING ADVENTURER: London, June 23.

WHEAL TREMAR AND OKEL TOR, AND THE MINING EXCHANGE.

SIR,—There was no necessity for the publication of my letter in your Journal of the 14th inst., referring to the above, because on that day, and without previous notice, so far as I am aware, you restored the list to a general one, such as it was before the Mining Exchange was established, and thus destroyed all invidious conclusions, which a separation of mines into (supposed) good and bad, naturally originated, whilst my complaint was founded wholly upon such distinctions as had for some time previously appeared in your Journal. The "Secretary of the Mining Exchange" has replied to the said letter, but I confess incompetency to follow him into the regions of poetry, and prefer not to imitate either Mr. James Stride's delicate sarcasms or wanderings from fact, it being only with fact I seek to deal. It is no fact, however, to say that I attempted unfairly to depreciate deserving mining property, or that I knew (as Mr. James Stride asserts) why the Okel Tor and Tremar were not placed in the Mining Exchange list. What objection has Mr. James Stride to my advertising shares specially for sale? Does he doubt the *bona fides* of my weekly lists? Does any one doubt it? Does any one seek to do otherwise than "advance their own interests" in matters of business?

The whole question between Mr. James Stride and myself resolves itself into a very simple one—a matter of fact. The enquiry in my letter was as to the cause of the retention of the two mines in question in the black list of the Mining Journal. Why was my offer to pay for the inspection of each by an agent of the committee's own choosing not acted upon? I have only to add, that Mr. James Stride's letter appears to have been published without the knowledge or sanction of the committee of the Mining Exchange. QUOD VALLET?

King-street Cheapside, June 27. JAMES CROFTS (Mining Agent).

[With the question between Mr. Crofts and Mr. Stride we can have nothing to do; but so far as the former gentleman is connected with mining, we must say, and we speak from considerable personal experience, we know few who have laboured so zealously to support undertakings legitimately conducted, or to assist and extend those proposed on *bona fide* principles.]

WHEAL LANGMAID.

SIR,—Being one of those who wish to see mines carried out in a legitimate way, I cannot refrain, for the good of all whom it may concern, to show the public in what concerns they may sometimes invest their hard-earned money. I have been an adventurer in Wheal Langmaid from the outset—having unfortunately paid a premium for my interest—and I am sorry to say that thus far we have had but a succession of blunders to witness and pay for; and these blunders have at last been crowned with Capt. Lean's able and honest report, which informs the adventurers that they have been throwing away their money (now upwards of 1000l.) on a flookan cross-course.

Now, Sir, I do not think that in the annals of mining there is to be met with a worse case of mismanagement than this, and it certainly calls forth the severest censure of all true and honest men, as well as miners, to see money (which is sometimes hard-earned) thrown away in the like manner, and which degrades the profession of mining in the eyes of the public.

If any of your readers had, like myself, been travelling on the Tamerton and Plymouth road, they would have feasted their eyes with a new spectacle—namely: a water-wheel, turned round by human power, or treadmill fashion, which, as one of the convicts told me, made him, at the end of the day, "so sore all over." Now, Sir, this requires no comment; but as this scene was witnessed in the month of February last, your readers will at once understand how cleverly our little mine (or "model mine," as it is called) is managed.

Capt. Lean has this time certainly hit the right nail on the head, although some think his report rather too harsh. But "honesty is the best policy" after all; and as an adventurer in the concern I cannot be too thankful to Capt. Lean, who, no doubt, has saved us from throwing away any more money with our eyes shut, as we have now the truth before us.

I trust our experience, so sadly bought, will be a warning to the public, and in particular to those who may think of investing their money in mines; and I would always advise them, before they venture, to inquire who is the manager of the mine, and whether he is a miner, or knows anything about mining?

Beccleston, June 24.

A SUBSCRIBER.

PENZANCE CONSOLS MINE.

SIR,—In the list of "Notices to Correspondents," last week, I find a letter from "O. P." (Cavendish-square), relative to this *dividend-paying mine*! On the 6th there was a letter from "An Adventurer" (Kentish Town); and April 26 another Notice to Correspondents, and as late back as 28th December (in your City Article), a discovery was announced that would enable them to resume the payment of dividends. Such not being the case up to this moment, and no notice whatever taken of these complaints, I have been solicited by several unfortunate parties to inspect and report; who, on learning from their share-broker that he had shares to sell paying dividends from 15 to 25 per cent., were induced to purchase in this "dividend mine," by means of such tempting representations, accompanied by the assurance that future dividends would be paid bi-monthly.

Having made an inspection in February last, I then found the state of finance to be, on the 17th April, 1850, a balance in hand of 291l. 8s. 1d., which paltry sum induced them to make, what they boasted of, "the first dividend ever declared from a mine in the parish of Sancreed"—viz: 128l., leaving cash in hand, 163l. 8s. 1d. The next four months, in lieu of profits and dividend, the actual loss was 117l. 7s. 11d.; the two months following, 5l. 11s. 6d., reducing the funds in hands to 40l. 8s. 8d. Such was the state of things on the 15th October, since which they have, in my opinion, done well in not requiring calls from the shareholders, had they continued as many hands employed in the working; but this, I regret to say, has not been the case. The number of labourers has been too small, and, with the present machinery, I do fancy they will not prove the mine to any depth, which, at the present rate, would take a long period of time. The only effectual way to try this mine, in my opinion, is to put it as deep as possible in the next six months—a favourable season for sinking; employing all the men they can advantageously; the agency and drainage charge will not be increased, and the mine developed more in one year than at present in five.

I maintain the dividend ought not to have been made; on the contrary, that calls were, and still are, necessary to do justice to both lord and adventurer;

It is very true that the heaves and shifts of the lodes by cross-courses and slides, in this, like every other mining district, are puzzling and perplexing sometimes even to the "practicals." The geological theorists will usually have it that the cross-courses, which, in many respects, are similar to lodes, have always shifted the latter. Such is not the case: the silver lode in Dolcoath, which runs in a line with the copper lodes, and has itself, from time to time, besides the silver, produced a quantity of copper ore. The copper lodes are invariably shifted by the cross-course, whereas Freeman's cross-course is shifted, or hoove, some feet by the silver lode. How does Mr. Ennor explain this strange freak of his "Nature's laws"? and how does he venture to say I have not turned some of the lodes to account? We practicals come in sometimes for a part of the lodes and fishes.

I have never said that the sale of lineal lodes holds good continuously. I should leave those who, like Mr. Ennor, rely on the re-producing qualities of the strata, to go between Wheal Busy and the Indian Queen to look for mines, unless any one can show me a good gossan, and we practicals would be at it in a moment. Mr. Ennor says he believes (believe, indeed!) that in the unproductive rocks, both

and I cannot account for the agent's being silent as to progress making for so long a period. I recommend them all to persevere, or suspend, rather than proceed as now doing.—*ANON (of Truro): June 26.*

WHEAL HAMLYN.

SIR,—Your readiness to expose the worthless schemes of men whose continual course of proceeding is to victimise the unwary adventurer, has secured for your Journal a reputation highly creditable to its management. You have likewise, Sir, ever exhibited a willingness to afford opportunity for the fullest explanations, whenever an individual connected with an undertaking which had been alluded to in your correspondence thought proper to reply. Permit me, therefore, to avail myself of this privilege, and to wipe the dust from the eyes of your correspondent in last week's Journal (R. Silvester). This man, whom I know not, wrote to me, making many inquiries, which I answered at considerable length. I send you his letter, that you may have evidence of the craftiness of good Mr. Silvester, of Belitha-terrace, Islington. With this introduction, to show you that to a man who had no claim upon me, as secretary to a company in which he was not interested, even though he were going to become an adventurer by purchasing another's interest, I gave a full, honest, and truthful reply to his inquiries, I proceed to give you some knowledge of the undertaking under notice; and although I am only an unworthy "functionary" connected with it, I will not allow my character to be impugned without good reasons existing for my condemnation. A company was formed for working Wheal Hamlyn on the 22d July, 1850, and a license granted to respectable parties in the neighbourhood. This is the date given as "years ago" by your correspondent. The mine was divided into 1024 shares, and transfers have been regularly executed from time to time, calls made for paying the costs as incurred, and a full account kept of all money transactions connected with the adventure. There are no liabilities existing, and 82 shareholders are now registered as adventurers. A short time back a new license was granted by the lord, and on the 28th of last month a meeting of adventurers was held, at which 942 (1024th) shares were represented. The mine was then divided into 2048 shares, doubling each holder's interest; and a call made upon this latter number, to meet the expenses of the lease, and the immediate costs of the mine for the next two months. The report which I send you will confirm my statements, and new certificates have been issued to each adventurer, in accordance with his present position. It is true a few prospectuses, or particulars of the mine, have been printed, in which a mistake, and not a wilful misrepresentation, has occurred. The dues of the mine are 1-16th and not 1-20th, as therein stated. No false assertion is there made to shock the honour of your correspondent, or any other person. No price of the shares is quoted to mislead the public, and I do not think the answers I wrote to him are much at variance with the facts as they are. No place is there mentioned where shares are to be obtained—the holders being at liberty to retain or dispose of them through any channel, suiting their position or inclination. And now, Sir, I ask him how he dares to insinuate dishonour to either myself, as secretary, or the adventurers, who may be selling shares, or offering them either to himself or his friends. Recent discoveries have enhanced the value of shares in this mine, and however extravagant a price may be asked or obtained for them, there is no discredit or dishonour attaching to the mine or its management; and I challenge all the mining men of Devon or Cornwall to come and examine into the position of the company's affairs, and to cry shame on a man who vilifies the name of another in an anonymous public letter, who had previously volunteered to give to him every information connected with the mine. A private pique must surely exist against some adventurer on the part of "R. S.," but I warn him against a repetition of his unworthy conduct. He has shown too much zeal in his declaration this time; for although mining adventure may have suffered by the much-to-be-deplored rascality of men connected with it, I have yet to question the existence of a reason why your correspondent should rank me amongst these. HENRY PEET.

Threemile street, June 26.

[We have received copies of Mr. Silvester's letters to Mr. Peet, in which he puts six ordinary questions respecting the management and liability of the adventurers, which we have no doubt Mr. Peet satisfactorily replied to. The general tenor of his language, his haste to assume an unwillingness to reply, and his threats to put the questions through our Journal, show a disposition to seek some ground of complaint, rather than purchase shares. He is, however, well answered above.]

KENMARE AND WEST OF IRELAND COPPER AND SILVER-LEAD MINING COMPANY.

At the first extraordinary general meeting of shareholders, held at the offices of the company, Moorgate-street, on Thursday—J. R. CAMPBELL, Esq., in the chair.—Mr. MANBY (the secretary) read the notice convening the meeting from the *Mining Journal*, and Capt. Hoskin's report of the state he found the mines in on his recent inspection of them.

The CHAIRMAN then stated that Capt. Hoskin's report was fully confirmed by that received from the managing superintendent on the spot, Capt. Wm. Thomas, and also Capt. Paul. There were 390 shares still unappropriated, and a regular conveyance of the property had been duly made to trustees on behalf of the company. The directors and secretary had but recently returned from the mines, and were satisfied of the property proving ultimately highly remunerative.—The following report, from Capt. Thomas, was then read:—

The engine-shaft is sunk perpendicularly from surface 36 fms.; the underlie of the lode is south, and the engine-shaft having been sunk north of the lode instead of south, shows that it was placed in a wrong position, as the deeper it is sunk the further will it be from the lode. Croker's shaft, which is about 70 fms. west of the engine-shaft, has also been sunk 36 fms. from surface, by means of horizontal rods attached to the engine; this shaft is perpendicular 27 fathoms, and the remaining 3 fathoms sunk on the course of the lode. During the former working of this mine, I examined the lode in Croker's shaft on the 30th Sept., 1846; it was then sunk about 3 fms. below the 36 fm. level. I am not aware that it has been sunk deeper since that period, and the lode was 3 feet wide, containing good solid lumps of rich copper ore. At present, the shaft below the 36 fm. level, owing to a defect in the shaft work, is full of water. The 17 fm. level has been driven 36 fms. west from Croker's shaft; it varies from 1 to 2 ft. in width, and contains gossan, floukan, and, in places, a small quantity of copper ore; the present end is disordered in consequence of the strata having changed from black slaty shale to soft whitish decomposing clay-slate, which I consider much more likely to produce ore than the ground through which the lode has passed. The 27 fm. level is driven west from Croker's shaft about 8 fms., and the lode in the end is small and unproductive. This end, however, should be driven west to reach the more favourable strata, and a winze sunk from the 17 fm. level for the purpose of ventilation and proving the ground as marked in the sketch. The 36 fm. level is driven west about 8 fms.; the lode in the back of the end is small, but in the bottom it assumes a more decided character, and contains good copper ore. The bottom of the 36 fm. level has been stopped west of the shaft between 2 and 3 fms. in length, and about 2 fms. deep; it is now full of water, but on my former inspection I found the lode intermixed with good copper ore, and a complete change in the strata from black slaty, or carboniferous shale, to light coloured clay-slate, in which, as it dips westward, and also at a greater depth, the lode will no doubt become much more permanent and productive. Trials have been made in different places in the bottom of the 36 fm. level, between the engine-shaft and Croker's shaft; the lode is well-defined, and contains copper ore of rich quality; the underlie of the lode, as before stated, is from 1 to 2 ft. 6 in. south. There is, however, between Croker's and the engine-shaft a singular bend, or plank, on the foot (north) wall of the lode, which for several fms. in length runs north, while the south wall continues its regular underlie south. I am inclined to think that the 46 fathom level, when driven under this place, will lead to important discoveries of copper ore. It will also drain the water from a winze sunk 10 fms. under the 36 fathom level, near the engine-shaft, which is now full of water, but in the bottom of which it is reported there is a valuable deposit of copper ore. In this plan of working being judiciously and systematically carried out, I believe that the result will be a valuable and permanent mine.

Forge Lode.—This lode is about 100 fathoms south of the engine, or north lode, and parallel to it; it is found in the mountain limestone, and considerable quantities of copper ore have been raised at various shallow depths from surface, of an exceedingly good quality. Continuous ranges of old workings are still visible for many hundred fathoms at surface; the depth of these old workings is unknown, but judging from the vast extent of open excavations still visible, it is more than probable that the former workers were amply repaid for their trouble and expectations, and that with an improved system of operations, valuable discoveries of mineral deposits will yet be found in this part of the mine. For further particulars as to the most beneficial mode of explorations to be carried out, I beg to refer to sketch.

Lead Lode.—About 22 fms. south of Forge lode is a lead lode, which being large and continuous a considerable distance, and rich specimens of galena having been produced therefrom, I consider it most advisable to sink some 10 or 15 fms. on the course of the lode, which will show its size and quality, just opposite the deepest working on the Forge lode; and if it proves as productive as I expect it will, a cross-cut could soon be driven to it from the bottom level of the workings on the Forge lode.

South Lode, Manby's Shaft.—About 200 fms. south of the lead lode a shaft has been sunk a few feet on what is known as the south lode; it is several feet wide, and seen near surface, and contains iron pyrites, iron pyrites, sulphate of barytes, and spots of yellow copper and lead ore. I recommend, as the most judicious mode of ascertaining the value of this lode, to sink Manby's shaft, as shown in sketch, on the course of the lode some 10 or 15 fms., and drive east west agreeably to circumstances, and I have reason to believe that it will lead to the discovery of important and valuable deposits of metallic minerals. The sulphate of barytes is indicative of lead ore, for which a ready market can be found. There is also considerable demand for iron pyrites, both of which articles are marketable, and will prove valuable auxiliaries in prosecuting explorations in search of other minerals. In conclusion, I beg to sum up this report as follows:—1. There are four parallel lodes; the three south lodes are in mountain limestone, and the north lode is bordering on, or rather in the junction of limestone, carboniferous shale, and passing into light coloured decomposing clay-slate. 2. The north lode assumes a more decided character, the deeper it is seen, for producing considerable quantities of copper ore. 3. The Forge lode, in my opinion, irrespective of all the other lodes, is a valuable speculation, and likely to produce large returns on a small outlay of capital. 4. The lead lode is highly deserving the trials recommended. 5. The south lode presents every appearance of producing large returns of ore. Lastly, it is my opinion, if this mineral property is fairly, economically, and properly worked, and the operations concentrated on given points, instead of scratching the surface of the whole property, that it will prove highly remunerative to the shareholders, as well as beneficial to the labouring classes of the district.

Several shareholders considered that Capt. Thomas's report gave perfect satisfaction, and the CHAIRMAN observed, that he (Captain Thomas) was quite ready to receive a per centage on the returns as a recompense for his services, in preference to a fixed salary—his estimate of expenditure was 218/ 5s. a month.

Sir EVAN MACKENZIE rose to propose the first resolution, which was seconded by Mr. LACRY, and carried by acclamation.—

That this meeting having heard read the directors' report, and the documents mentioned therein, approve and confirm the same, and consider that the best thanks of the shareholders are due to the directors, for the able and energetic steps taken by them for the advancement of the shareholders' interests.

Mr. TOWN stated that he had attentively perused all the reports and other documents, and finding the former corresponded in effect so correctly in the main facts, he could entertain no doubt as to the prosperity of the concern, if judiciously conducted. The north lode had already shown a profit under the old company, and Manby's lode south was of so favourable a character, that in Cornwall it would be held to warrant an outlay of 30,000/., to give it an effectual trial.—The chairman and shareholders generally expressed themselves highly gratified with the prospects of the company, and evinced their determination of giving the mine an adequate trial to prove the value.

It was then proposed by Mr. J. BRANWELL, seconded by Mr. FRITH, and carried unanimously:—

That the thanks of this meeting are due to the chairman for his able and courteous conduct in the chair.

The meeting, the proceedings at which appeared to give general satisfaction, then separated.

MARMATO GOLD MINING COMPANY.

The first annual meeting of shareholders was held at the offices, 13, Austin-friars, on Monday, the 23d inst.—JOHN DISTON POWLES, Esq., in the chair.

Mr. L. R. JONES (the secretary) read the notice from the *Mining Journal* convening the meeting, also the account of receipts and disbursements for 1848, 1849, 1850, the result of which, showing the prosperity that has attended the prosecution of this concern may be summed up as follows:—

Balance of receipts over disbursements in 1848 £102 13 7
" " " " 1849 5235 10 7
" " " " 1850 5843 14 11

Profit: £11,181 19 1
Deduct, 1848, loss on dependencies £838 17 10
" loss by the failure of a mercantile firm in New Granada 2086 19 2 — 2925 17 0

Nett profit £8256 2 1
Dividend paid in January for half year £2700 0 0
" now declared 2700 0 0 — 5400 0 0

Leaving balance in hand of £2856 2 1

Stamped at end of 1849, rough ore Tons 8303 0 0—for 1850 Tons 7588 1 0
Re-treated 8078 16 0 " 12047 16 0

Total Tons 16,381 16 0 Tons 19,635 17 0

Average number of stamps head at work 75 31-60ths 88 17-30ths

1849—Obtained from the mills Fine Gold. Fine Silver.
Tribute £510 6 18 284 4 4
Purchase 22 11 6 12 2 10

1850—Obtained from the mills £562 10 5 342 1 4
Tribute 14 0 12 8 3 4
Purchase 137 10 9 79 7 1

Total £514 11 8 332 7 7

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Tribute 14 0 12 8 3 4
Purchase 137 10 9 79 7 1

Total £514 11 8 332 7 7

The CHAIRMAN stated that such had been the progress of the concern during the brief period of its existence. The outlay of capital had been 6750/., being 2/ 10s. per 2700th share; the dividend declared this day would, therefore, make a return of 2/ 10s. per share, and in January the present balance in hand and prospects ensured the payment of another 1/; in fact, there was every probability of the future divisions of nett profit extending to 2/ 10s. per share per annum. The directors services had hitherto been gratuitous, but they thought themselves entitled to some small remuneration, commencing from 1st January last, if some gentleman would propose it to the meeting.

Mr. FISHER then moved that each director should receive 50/ per annum from 1st January last, which was carried unanimously, as were the motions respectively—that John Diston Powles, Esq., be re-elected a member of the board, and that Edward Hurry, Esq., and William Champion Jones, Esq., be appointed auditors.

A SHAREHOLDER inquired what was considered to be about the market value of their shares, and received for answer that the proprietary consisted of not more than 22 or 23 individuals, therefore transfers had not been very frequent—the last was understood to have been made at 10/ per share.

The meeting then separated, to the satisfaction of all.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

LLANRWST.—A lead mine has been at work here for some years, which has returned a profit of about 3000/ a year; the principal vein is from 3 to 4 feet wide, underlying about 20° south-west. The south part of the set extends over 10 acres, 400 yards of the vein at surface yet untouched. The stratum is killas, and a recent discovery of numerous valuable and rich strings and branches of lead has been made. A level has been driven 49 yds. in the western ground, and a further 40 yds. will cut the vein 80 yds. from surface, when it may be worked most favourably, and on a large scale. There is abundance of water power, and the freight to and from the shipping place reasonable.

WHEAL ANNA CONSOLS.—Although this mine was introduced but very recently, we understand that the shares have been readily taken, of which a large portion is held in the county, and that this concern will be speedily and vigorously prosecuted under the direction of Capt. Puckey, of Fowey Consols, Par Consols, &c. As an earnest of this intention, some parts of the engine have been delivered in the mine during the present week, and the other arrangements for working we hear are progressing with equal expedition.

DARTMOOR.—Old Brimpts is a fair speculation under the present management: I see no reason why she should not prove an excellent mine. Golden Dagger is a capital little mine, but those who deserve the praise for making it so I am afraid will have to contend with the "snake in the grass." East Birch Tor is a fair speculation, under an efficient agent. Devon Great Tincroft is in its infancy, but has several small champion lodes producing fair stamps' work—this mine also requires good management.

The mines on Lake Superior have for some time past attracted much attention on the part of the capitalists of New York and the other cities of the United States, whose proverbially keen eyes for any new source of profit quickly showed them the importance of the mineral wealth of those regions. The consequence was a kind of mania for copper mining in 1845 and 1846, and the advice last to hand report that the inquiry for good locations is now almost as great as it was at that period, whilst it is noticed that the inquirers are of an improved class, being generally men of capital. New mines are being gradually started, and, in most instances, New York, Pittsburg, and Philadelphia, furnish the capital required. The old mines are stated to have never looked better. The magnificent accounts which have been published relative to the prospects of the famous Cliff Mine seem no way exaggerated. According to the last accounts the mine looks better than ever. In consequence of the discovery of an immense mass of ore, the stock had improved in a short time from \$95 to \$120 per share. About 500 tons of ore are stated to be raised; the stamps will soon be in full operation; and there was a very large quantity of copper ready to be taken out. It is estimated that this mine alone, which is the property of a Pittsburg company, will ship about 1200 tons of mineral to market this year, 65 per cent. of which is pure copper. In the Ontonagon district the Minnesota Mine stands the most prominent. This company kept about 150 men in employment during the winter, have extended their first level about 1000 feet, have sunk three shafts to the depth of 160 feet, and another to the extent of 100 feet, and opened the second level about 500 feet. They have also opened a new vein 30 feet north of the original works by a cross-cut at first and second level, which is proving exceedingly rich. They are now carrying on stopping, which produces mass copper and rich stamp work in all parts of the mines. Some of these masses, now exposed, are estimated at 40 tons each. This company will probably ship 500 tons of ore this season. The mines known as the North American, North-Western, Peninsula, Norwich, Forest, Ohio, and Adventure, are also very favourable. The Aztec Mine has not sufficient force at work, but it is noticed that this location is perforated with ancient diggings, to the extent of upwards of a mile, and wherever the earth has been removed, rich masses of copper have been found, apparently in large quantities. In many cases, the mineral in these districts yields 70 per cent. of pure copper; and masses of pure copper are stated to have been taken out, weighing from 4 to 5 tons each. Mining on the Lake is now carried on with much more system than formerly. The work is now nearly all done by contract, on the principle of so much per foot for sinking a shaft or driving a drift; and this plan is found much more economical than the engagement of men who worked by the month. The greatest drawback to carrying on mining in the Ontonagon county, where the soil is extremely rich, is the great distance the companies have to bring their supplies, the roads being very bad in the summer, though good in winter. A proof of the enterprise of the miners is found in the circumstance that application has been made for a charter for the construction of a railroad from the mouth of the Ontonagon river to the Adventure Mine, a distance of about 15 miles. Under the influence of such considerations, the population of these regions is rapidly increasing.

The contract for the Boyne viaduct, on the Dublin and Belfast Junction Railway, has been given to Mr. Evans, who executed the works of the Conway Tular Bridge on the Chester and Holyhead line. The sum stipulated for the viaduct over the Boyne is 68,000/.

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—The lode in Field's engine-shaft, sinking under the 80 fm. level, is just as reported on last week. The lode in the 80 fm. level east is about 8 ft. wide, and at present we are driving on the north part, which is 5 ft. wide; this north part is worth for copper ore 60/ per fathom; the remaining 3 ft. on the south is ore, but this part will not be broken this week. The lode in No. 3 winze, sinking under the 70 fm. level east, is 5 ft. wide, nearly all solid copper ore, worth 90/ per fm. In sinking Wyld's shaft under the 70 a branch of copper ore has fallen in from the north, which we expected, as it went from us in the 70; this branch is from 6 to 8 in. wide, pretty good, and is crossing the shaft towards the south part of the lode; the south part of the lode in the 70 appears to be running behind this shaft, and at present is from 4 to 5 ft. wide, worth from 70/ to 80/ per fm. Wyld's shaft has been sinking between the two parts of the lode, but we intend now sinking it with less underlay, so as to get nearer the south part of the lode—this ore ground is looking well.

BEDFORD UNITED.—There is no alteration in the 115, east of the engine-shaft; the lode in that level, east of Andrew's winze, is 4 feet wide, producing good stones of ore, and more kindly than it has been; west, not taken down. The lode in the 103 east is 4 ft. wide, and is at present worth about 5 tons of ore per fm. We are sinking by the side of the lode in the winze at the 99. The lode in Hooper's winze, at the 80, is 20 in. wide, spar and mundle, with good stones of ore. The lode in the 47 east is 1 1/2 ft. wide, capel, spar, and mundle; west, producing stones of black ore.

BODMIN WHEAL MARY CONSOLS.—In the 22 fm. level the lode, No. 3, is 2 1/2 ft. wide; the back of this lode will set on tribute when we have holed the winze; No. 6 lode, in this level east, is 2 ft. wide, 15 in. of which is good work; and driving west, 15 in. wide, with ore disseminated throughout. The two men extending east on No. 3, in the 10 fm. level, are opening ground for tribute, and the lode improving. We shall cut No. 6, driving south in the 10 fm. level, in a fortnight. The pitches on No. 4, in the bottom and back of the adit, are much improved, and producing ore of good quality.

BYRN-ARIN.—The 20 fm. level, driving west from the engine-shaft, is in a lode 6 ft. wide, yielding 15 cwt. of ore per fm. the same level, driving east from the winze, is yielding about 6 cwt. of ore per fm. The stopes in the back of this level, west of the shaft, are producing 10 cwt. of ore per fm. The 10 fm. level, driving west from the shaft, is in a large lode, but at present poor. The stopes in the back of this level is yielding about 8 cwt. of ore per fm. The 20 fm. levels, driving each way on the course of the lode, in Hallett's shaft, are looking more promising than when we commenced driving, as we are getting off from the slide; the lode is becoming more settled, and at present producing some stones of ore, but not of much value.

BUTTERDON.—The engine-shaft is sunk 5 fms. below the 80 fm. level, and the ground is still very good. In the south end at the 30 fm. level the lode is 2 ft. wide, and still worth about 3/ per fm. There is no change in the north end to notice, the lode being still large, composed of fine gossan, &c., and spots of lead.

CARADON WOOD.—The work is progressing favourably. In the shaft we have good ground; the middle lode is in it, and, according to its bearing there, it is a north and south one, in which case we have three of them; it carries a very fine gossan, 18 in. wide. We have 14 men employed here, and six in the shaft.

CARTHEW CONSOLS.—The engine-shaft is now sunk about 9 fms. below the 85 fm. level; in the coming week we hope to be down to the 95 fm. level. The lode in the shaft is very much improving since we have been sinking in settled ground; very fine stones of lead and copper are being got from it daily. The lode in the 85 fm. level, and north continuation of the lode, are producing some good work. A very good improvement is met with in the west end in the 75 fm. level; the lode in this end continues very large, and produces very good work for copper; there is a leader of very rich copper of about 4 in. wide on the south part, whilst smaller portions are interspersed throughout the other part. The lode in the south end in the 75 fm. level is about 4 feet wide, the greater portion of which is saving work. In the 65 fm. level end south we have a very large lode, producing within these last few days better work in lead than we have seen in this end for some considerable time past. We have not yet commenced driving north, south from the bottom of the middle shaft. The tribute depending on the 30 fm. level next week. We are cutting down a piece of ground in Gundall's shaft, between the adit and 10 fm. level; when this is done we shall commence driving the 30 fm. level west of this shaft. The branch west of flat-rod shaft, between the adit and 10 fm. level, is still producing good ore. Since my last report we have cut two lodes, both of which are south of the counter lode, one about 150, the other 200 fms. We have sunk about 9 ft. on the course of these lodes; they are both of a very promising character; I shall be able to say more about them in my next. We are not employing any additional men on this work.

COPPER BOTTOM.—The engine-shaft is now 5 fms. 3 ft. below the 50 fm. level; the ground in the shaft is very congenial for copper, and from the appearance of the south part of it, the lode must be very near. I hope to be able to report on the appearance of the lode in another fortnight, as we expect to have it in the shaft by the end of that time. In the 50 fathom level, driving east of the engine-shaft, the lode is 18 in. wide, of a promising nature, but unproductive at present; in the same level, driving west of engine-shaft, the lode looks much the same as when last reported. In the 40 fm. level, driving west of Paul's shaft, the lode is 15 in. wide, composed of spar, blende, and spots of yellow ore, a very kindly lode. In the west end of the winze in the bottom of the 20 fm. level, east of Paul's shaft, we have a branch of ore 1 ft. wide; in a winze sinking 15 fms. west of Paul's shaft, in the bottom of the same level, we have a lode 3 ft. wide, containing some good ore; in the same level, driving west of Stanley's shaft, the lode is 1 ft. wide, composed of spar, prun, mundle, and spots of yellow ore; the stopes in the back of this level, east of Paul's shaft, are not looking quite so well as when last reported, but we are still raising some good ore from them. Stanley's shaft is communicated to the 20 fm. level. The lode in the 10 fm. level, driving west of Stanley's shaft, is still of an exceedingly promising character.—North Lode. In the 30 fm. level, west of flat rod shaft, we have a very kindly lode, nearly 2 ft. wide, containing some good work; at present the men are rising against May's shaft, which we shall communicate to the 30 fm. level next week. We are cutting down a piece of ground in Gundall's shaft, between the adit and 10 fm. level; when this is done we shall commence driving the 30 fm. level west of this shaft. The branch west of flat-rod shaft, between the adit and 10 fm. level, is still producing good ore. Since my last report we have cut two lodes, both of which are south of the counter lode, one about 150, the other 200 fms. We have sunk about 9 ft. on the course of these lodes; they are both of a very promising character; I shall be able to say more about them in my next. We are not employing any additional men on this work.

CWYSTWIT.—Some fine ore has been cut into in Kingside adit, believed to be the lode upon which the sink under Bonall adit is gone down. The lode in Pen-y-gellan shaft is improved, being now 4 or 5 feet wide, with good spots of ore in it. All the stuff saved for dressing. No lode yet discovered in the 40 west.

CYFANEDD FAUR.—In No. 1 sink the ground continues very good. In No. 2 the ore has improved in the stopping ground, the lode carrying its proper dip and width. The water becomes more troublesome.

DEVON CONSOLS NORTH.—We have commenced sinking on the south lode, and if we find the favourable indications continue, we shall at once begin our engine-shaft. On the north lode, the great improvement in Morris's shaft continues, the lode being composed of very fine gossan, mundle, and spar, of the most promising character. The appearances in the adit, which is being driven to join Morris's shaft, are also very encouraging as we proceed.

DOLFRWYNOG (COPPER).—The driving in the Fron level has again changed. We have cut another lode after going through the first; these appear to form a junction, and I have little doubt of its being the Gumdri Goch lode—the end of the month will prove this. In the Fownog level we have cut a fine lode, carrying good copper.

EAST BALLESWIDEN.—Since my last report the engine-shaft has been sunk 4 ft., and there is a very kindly lode of tin going down in the bottom of the shaft; the lode is from 10 to 12 in. wide, all saving work. We still continue driving west on the Flat lode, with a good lode of tin in the end. We have cleared up an old shaft 20 fms. from the Flat lode shaft, 8 fms. deep from surface, and have discovered from 40 to 50 fms. of levels; but nearly all the ground both over and under is gone, being taken away by the old timers. We shall continue to sink this shaft down on the adit end, which will enable us to discharge all the stuff at a very great saving to the labourers and the adventurers. We shall get the stamps to work as soon as we can, to stamp the stuff now lying at surface. The Flat lode shaft is now down 13 fms. from surface, and I hope it will be communicated to the adit level this week; when this is done we shall again sink under the adit without delay, so as to open a good quantity of tribute ground.

EAST BIRCH TOR.—The adit end driving east on the course of the large tin branch, near the Footway shaft, continues to improve; the stopes are also producing good work for tin, and on Monday last I set two pitches on tribute—one on the south lode, and the other from the large burrow adjoining the engine shaft; and I am happy to say that both tinwork and tributaries have this week made some progress, as they have sent to grass a splendid pile of work for tin.

EAST SHARP TOR.—Last Saturday, being setting day, Hitchins's engine-shaft was set to eight men—month's stint, 10/ per fm.; the ground is slightly decomposed, and requires a little to keep it open. The north wall of the lode is very regular in its dip or underlay, and presents a fine quartzose appearance.

EAST WHEAL GEORGE.—The lode in the 23 fm. level, east of shaft, is larger, and producing good stones of ore, but not rich. I mentioned in my last that we had put the men to drive south in the end of the 23 fm. level, west of shaft, in order to ascertain if any part of the lode appeared to have split about 5 fms. back from this point; we have driven on the north part, which appeared at that time to be the most promising; but, after driving about 5 ft., we cut the main part of the lode, which presents a very kindly appearance, it being 3 ft. wide, composed of ore, peach, mundle, and spar—saving work. We have about 15 fms. more to drive to get under the winze; if the ground continues as at present I expect it will be communicated in about six weeks. The stopes in the back of the 23 fm. level, east of shaft, are yielding some saving work, but at present not rich. The lode in the 12 fm. level, east of shaft, is producing good stones of ore, but not of much value; the lode in the winze sinking below the 12 fathom level, west of shaft, is producing from 8/ to 10/ worth of ore per fm.

EAST WHEAL LEISURE.—Jewell's engine-shaft has been sunk 5 fms. below the 27—ground very favourable. The 27 east has greatly improved; the lode is now 3 ft. wide, producing 1 ton of ore per fm., and from the appearance of the 17 above, further improvement is expected; the 27 west has also improved, lode 3 feet wide, good stones of ore. The 17 west, lode 5 feet wide, good stones of ore; a more promising lode cannot be seen; in the 17 east, about 18 fms. a piece of ground has been taken down, and a promising lode discovered, 24 feet wide, turning out 1 ton of ore per fm. in the rise. The 10, west on the north lode, is holed to the 7 from Jewell's shaft, and has continued to turn out ore to the last; it has laid open good tribute ground, working at 3s. 6d. in the 17; the lode in the 10, west on Taylor's lode, is 2 feet wide, good stones of ore. Other works of trial have been commenced. We sampled 147 tons of ore on the 24th inst. The tribute depending is looking tolerably well, and 30 tons of ore per month is expected to be broken from ground already laid open.

EAST WHEAL REETH.—On my arrival here, I found Mr. W. H. Gray with the labourers, busily engaged in fixing the engine. The last castings are now in the sand, and will be delivered this week; and I calculate on working some time next week, when I hope it will go off well and soon drain the mine.

ESGAIR LEE.—We have finished cutting down the engine-shaft from the surface to the deep adit, and in the course of which, where we found arches and parts of the lode left standing, it produced some very good work, being 6 ft. wide; and in the western end of the shaft, near the adit, the lode is now to be seen standing, equal to about 1 ton of ore per fathom, and has a very promising appearance. We are getting the rods, 10s. &c., ready as fast as possible, in order to resume sinking the said shaft, which is to be from 2 to 3 ft. wide, and producing some good stones of ore, but not sufficient to set a value on. The stopes are, on an average, without alteration, and will yield from 6 to 8 cwt. of ore per fathom.

GARRIG.—I anticipated ere this to have seen the bottom level of the mine, but it is almost impossible to unwater it, and, at the same time, draw the tribute work.

and clear the south level, which we are now doing. A new pitch has been set south of the engine-shaft in the back of the level. The foundation of the engine-house will be got out in a few days.

GEORGE AND CHARLOTTE.—The lode has been again cut into in the shallow level, driving east from cross-course, where a leader of rich ore has been met with in a strong lode; the north lode in this level is looking much as when last reported. The communication has been made between the old workings and the shallow level, which has laid open tribute ground. The run in the middle level has been secured, and we have commenced driving east on the lode, it being at present small. The shelling on the top of the hill is being continued, but no other lode has been met with since last report. At William and Mary side of the hill, the lode in the rise against the whim-shaft is much the same as last report, producing good stones of ore. The lode in the whim-shaft, sinking towards the above rise, continues to look promising—14 tons of ore per fm.

GOGINAN.—No change of importance has occurred. The 180 and 120 fm. levels are yielding about half a ton of ore per fathom. The stopes in the upper levels are 4 to 1 ton per fm. The 30 fm. cross-cut from the boundary shaft has passed through 13 feet of the lode lately intersected, and has not yet reached the north wall; it is composed of spar, jack, clay-slate, and spotted throughout with lead ore; it has a very promising appearance, though not rich.

GREAT WHEEL BADDERN.—In the 51 fathom level and the lode and branches are from 2 to 3 ft. wide, with rich leaders of lead throughout; it may not be amiss to repeat that we are more than ever confirmed in our hopes of large returns from this level; the stopes in the back, both east and west of Tweedale's shaft, are highly productive, and opening in fair ground. In the 40 end the ground is a little harder, and lode not quite so good, but which we expect will improve shortly, judging from the character of the lode; the stopes in the back, east and west of Buckley's, are without alteration since last reported. In the 30 end, east of Burgan's shaft, lode very promising, producing rich lead—ground moderate for driving; the stopes in the back are producing still fairly, and promise well. The 20 end continues to present good prospects, ground still fair, and lode composed of rich lead. We have resumed driving the adit, having completed the plate at Burgan's 30 and 30 fm. level. We are strongly of opinion the new lode, mentioned for the last two or three weeks, is a separate and distinct lode westward through the mine for at least 100 fathoms in length; we have opened a little further upon this lode during the last week at the point of intersection east, and find it very satisfactory. On Saturday last we directed a cross-cut south from the old lode, about 70 fm. west of the junction—we calculate upon cutting the lode at a depth of 4 fathoms driving. The pitch tribute pitch in the adit, on the caual lode, is still producing good work. The pitch on the old lode, in the 20 end, contains a good branch of lead. We have a pitch working for tin and muddle in the back of the 30, west of Sunderland shaft, which is producing average work for tin. The setting, pay, and sampling of about 60 tons of lead ore took place on Saturday last, in due order. We shall be ready to sample another parcel of lead ore on the 30th of July. The surface and dressing operations are progressing steadily.

HENOCK.—The shaftmen have finished the plat, and will put in the pent-house in the early part of the week, and will commence sinking under the 30 fm. level for the bearer and cistern. The men have holed the winze, and will commence cutting through the western lodes in a day or two.

HERDSFOOT.—The lode in the 137 end south is 2 feet wide, yielding 10 cwt. of ore per fm. In the north end of this level it is 3 ft. wide, very regular and kindly, but at present poor. In the 127 the lode is 1 ft. wide, yielding saving work; the south end is driving by the side of the lode in favourable ground. The lode in the 117 south is 2 ft. wide, and worth 21 cwt. of ore per fm. In the 108 the lode in the south end is small and poor. The 94 south is being extended by the side of the lode, which has not been taken down as yet, and is looking much more promising. The 80 end south is yielding saving work. The 70 we are driving by the side of the lode; the ground is much more favourable than it has been for some time past. The stopes throughout the mine are looking as well as usual, and much the same as when last reported. We shall sample on the 26th, and expect to have our usual quantity of 80 tons. All our machinery is in good working order.

HOLMBUSH.—The ground in Hitchin's engine shaft, sinking below the 132 fm. level, and in Wall's engine-shaft, sinking below the 100, is getting more favourable as we proceed with them. The lode in the 132 fm. level is 4 ft. wide, composed of soft quartz, pryan, and stones of lead, opening tribute ground; the same remarks will apply to the lode in the rise over this level. The lode in the western stopes in the back of the 132 is 18 in. wide, producing 3 tons of copper ore per fm.; the lode in the eastern stopes will produce 2 tons of ore per fm. The lode in the 120 fm. level, east of the cross-course, on the flapjack lode, which is 3 ft. wide, producing stones of ore. The same lode in the 110 fm. level east will produce 2 tons of ore per fm. The lode in the 100 fm. level east is 20 in. wide, composed of spar, muddle, blende, and stones of ore, and it appears likely that an improvement will take place shortly. The lode in the 100 fm. level, west of Wall's engine-shaft, is 3 ft. wide, composed of soft white quartz, muddle, and copper ore, producing 11 ton per fm.; I never saw it so productive or promising before, and at deeper levels I have no doubt it will be found a very productive and well paying lode; I ground my belief in the vast quantity of muddle there is in it. In all the levels explored we are getting around a parcel of lead ores as fast as we can.

KIRKCOUBRIGHTSHIRE.—The lode in the 74, west of Stewart's, is 4 ft. wide, yielding 5 cwt. of lead per fm. The 74, east of Gillip's, is 3 ft. wide, with good stones of ore; the 74 west is 5 ft. wide, with small spots of ore. In the rise over the 62 west it is 2 ft. wide, yielding 5 cwt. of lead per fm. In the 50 west it is 5 ft. wide, yielding 1 ton of ore per fm. In the 40 end, west of ditto, it is 5 ft. wide, with a good branch of ore coming in the end.

LLWYNMALES.—The 14 fm. level west is still looking very good; the stopes from 5 to 20 fms. west of western winze, over the 14 fm. level, for 3 fms. high, are not quite so good as last week. The stopes from 5 to 20 fms. west of western winze, over the 14 fathom level, from 3 to 5 fms., 5 feet high, are much as last week. The stopes 5 fms. west of western winze, over the 14, from 3 to 5 fms., 5 ft. high, are not quite so good. The rise 6 fathoms west of western winze, is much as last week. The 30 west contains about the same quantity of ore as last week, but looks much more promising. I have put the men from the 24 fm. level to sink the London shaft 2 ft. deeper, for a fork, or as a reservoir, as the London shaft lift, drawing the water direct from the bottom of this level, takes up a good deal of the gravel shaft, which heaves out the leather of our boxes and clacks very much sooner than it should do, as well as causing great hindrance by changing the boxes and clacks so often. The engine has been consuming 1 ton of coal in 24 hours, during the time we experienced such heavy rains, but has kept the water out of the mine.

LYDFORD CONSOLS.—At Wheel Mary, the lode in the gossan shaft is large and kindly, being composed of spar, pryan, and capel, with spots of lead. At Wheel Adventure, the lode in the adit and south is increasing in size, composed principally of flookan and gossan, with spots of muddle.

MACCLESFIELD.—In compliance with your request, I have inspected the operations at the Macclesfield Copper Mine, and find that since my first inspection the great north, or newly-discovered lode, has been opened upon, so as to prove its character for more than 40 fms. in length, the whole of which distance is a very favourable appearance, and is from 8 to 9 ft. wide, with a fine gossan, and good stones of copper, intermixed with spar and muddle. The adit level is driving in a fine channel of kilias, and will cut the lode at a depth of 25 to 26 fms., and, judging from the appearance where opened upon in the hill, I expect a good paying lode in it. As there has been no work done upon the other lodes since I last inspected them, I can add nothing on this head to my former reports.

MERLLYN.—At the whim shaft the men are engaged cutting lodge preparatory to sinking; this shaft will be resumed the early part of next week. We commenced sinking a winze east of the whim-shaft, below the 26 fm. level, in a day or two. The 16 fm. level, driving west from the whim shaft, has intersected the cross-course; the lode is producing lead worth about 54 per fathom. We have commenced a winze in bottom of 15 fms. level, to communicate with the cross-cut in the 16 fm. level from engine-shaft, which is requisite for ventilation; it would also give a trial to this piece of unexplored ground. The winze is sunk about 6 feet in this short distance; the lode is much improved, worth from 18 to 204 per fathom. The engine-shaft is progressing very favourably.

MILWR MINES.—Since my report of the 28th May the water has been drained to the 160 yard level, and the drawing-lift from the 140 to this level put into proper repair. One of the main lodes in this part of the mines having passed through the engine shaft between the 140 and 160 yard levels has given us much labour and difficult work in repairs, having had to substitute side and end timber, and to remove two bearers, 2 ft. square, across the engine-shaft, supporting the heavy ground now otherwise secured. This has taken up much time, and although the shaft has long since been secured and cased above the 140 yard level, still we have not been able as yet to draw from either the 140 or 160 yard levels. We are now casing the shaft between the 140 and 160 yard levels, and hope to get the whim-engine to draw from both levels by the end of this week. The whim-shaft below is so filled with timber, that we could not put a lift of pumps into it; still we have been lucky, and have dropped 10 fms. below the 160 yard level to the 180 yard level, where it rests on, we suppose, some old bearers. This lift, put to work on Saturday last, has drained 5 fms., and may be expected to go in fork about the end of the week, when, if it is the bearers only which stops the lift, we may hope to have another drop of 10 fms., which will drain the bottom level in three weeks from this time. The coming water to this engine, in the 160 yard level, is about 54 strokes per minute, and about 3 strokes at Milwr when in fork to the bottom, consuming 2 tons of coals per day with the latter, and 4 tons at the former. There is a good course of ore in the bottom of the 112 yard level, on a vein which we believe to be all whole to the east of the present workings, and, from appearance, likely to do well when it can be got at in the 140 and deeper levels, and we may hope to cut it in the 140 yard level in a month or five weeks after the level is cleared. We have not been able to work any pitches below the 112 yard level as yet for want of water. We have commenced driving the usual level west from engine-shaft, on Clawd y-fordd vein, in limestone; the vein is 2 feet wide, with clay and ore. We are also driving the 45 fm. level from Brynford Hall Mine east, to lay open the ground between the two mines. These levels are about 150 fathoms apart, the latter one being 30 fms. higher than the former. Taking these mines as a whole, from all appearance there is every reason to hope that they will now, in a very few months, realise our most sanguine expectations, and bring large returns to market.

—June 26.—The lift of pumps in Herward shaft dropped to the 180 yard level; it has this morning gone in fork, and we may hope to have another drop at the end of this week.

NANTEOS.—The sinking of Taylor's shaft is proceeding favourably—lode 4 ft. wide, with some stones of ore. The 40 east, on south lode is unproductive. The 30 west is producing 8 cwt. of lead ore per fm.; the 30 west, on south lode, 12 cwt. per fm.; the 30 east, on south lode, 15 cwt. per fm. The stopes are yielding the usual quantities of ore, and the appearances generally are more promising than they were.

NORTH TAMAR CONSOLS.—In the rise going up from the 10 fm. level to ventilate that part of the mine, we have cut a good bunch of rich silver-lead; we discovered the lead about 4 fms. over the 10 fm. level, and find the branch of lead is going down behind the timber. We are paying 20s. per fm. for rising, and the lode is worth 104 per fm., and is going north and south, and up and down, and is likely to continue.

NORTH WHEEL ROBERT.—The lode is looking much better, and some very splendid stones of ore have been taken out this week.

PENNANT AND CRAIGWEN.—I am glad to be able to inform you that I have never seen the lode looking so well in No. 1 adit as it is at present. It is now nearly due east and west; this may, perhaps, give us from 1 to 2 fms. more to drive before we get into the junction of the porphyry and kilias. The ground in Bush's adit has

altered for the better. There is now in the forebore many strings of spar and muddle, which is great relief for the blast.

PETER TAVY AND MARY TAVY CONSOLS.—We have taken down the lode in the engine-shaft for 5 ft. high, from which some rich work for tin has been drawn to the surface, with some rich stones of copper ore; this work last sent up is quite equal to any that has been sent to the surface since the discovery, the tin being much stronger, or larger in grain, than when the first discovery was made. I am happy to say the lode never presented a better appearance in the bottom of the shaft than at present. In commencing another stop in the new wheel-pit we have uncovered more of the lode, which presents a very good appearance, producing good spots of ore, muddle, and peach. The men are getting on with all possible speed in excavating the ground in the wheel-pit, which I expect will be ready for the masons to commence walling by the 30th July. I was at the foundry on Friday (June 20), and find they are getting on very satisfactorily with the castings.

PRAED CONSOLS.—Although the new adit is not yet holed to the old workings, present appearances, I think, justify me in stating that we are closely approaching them, and, if things go on favourably, I hope we shall accomplish it in a few days. We shall then shortly afterwards get into the place where the tin goes down. The men near the cross lode have now cut down the shaft to the present bottom, which is 2 fms. under the adit. They will commence sinking the shaft at once. The water is still quick, but it drains down the whole on the cross lode; and we intend shortly to put men to stop on the lode, so that we shall soon be raising large quantities of tinstuff. Mr. Gray has visited us several times of late, and it is our opinion that, in order to facilitate the workings vigorously, and to develop the resources of the mine to the best advantage, it is necessary that preparations should be made for an engine; and, with this in view, the ground has been selected, and the foundation got out for a smithy, small office, and carpenter's shop, all under one roof, which will be built on a cheap plan. The masons will commence building in a day or two.

PRINCE ALBERT (TIN AND COPPER).—We are progressing favourably with the diagonal shaft, and the arch of ground between the deep and shallow adits is producing good tinstuff. We can set a pitch to two men, and immediately after we have put up a winch we can lay open a great deal of good tribute ground. Our prospects are, therefore, most encouraging. We have not yet sailed ourselves with an engine, but are making every necessary arrangement till we purchase one.

SOUTH TRELAWNY.—We continue driving the cross-cut west with six men, ground moderate, a dark blue kilias; any lode ought to prosper in such a stratum as we are now in.

TRELAWNY.—Trelawny shaft is sunk 13 fms. 5 ft. under the 92 fm. level, and the ground is still favourable. In the 92 and north the lode is 3 ft. wide, and worth 71 per fm.; in the south end, in this level, the lode is 2 ft. wide, and worth 94 per fm. In the 82 end north the lode is 3 ft. wide, and worth 171 per fm. In the 72 end north the lode is 2 ft. wide, and worth 81 per fm. At the north mine, in the 78 end, north of Trelawne, the lode is 2 ft. wide, and worth 81 per fm. In the 68 end, north of ditto, the lode is 2 ft. wide, and worth 61 per fm. Smith's shaft is still in fair ground, and requiring to be timbered; it is now down 15 fms. 1 ft. below the 55 fm. level. In the 55 end, north of ditto, the lode is 1 ft. wide, and worth 51 per fm. The stopes in this part are looking fair; but in the south mine they are not turning out quite so much work as usual. We sampled on Saturday last 100 tons (computed) silver-lead ores of good quality.

TRELEIGH CONSOLS.—Christie Lode: In the 100 fathom level, west of Garden's, the lode is 18 in. wide, with stones of ore. In the 90 fm. level, west of ditto, the lode is 18 in. wide, with stones of ore. In the 80 fm. level, west of ditto, the lode is 18 in. wide, with stones of ore. In the same level, east of Christie, the lode is 15 in. wide, with good stones of ore.—Parent Lode: In the 61 fm. level cross-cut, north of Parent engine-shaft, we are driving to cut Parent lode; in the same cross-cut south we are driving to cut Middle lode. In the 30 fm. level, east of ditto, we have cut the lode, which is 2 ft. wide, with stones of ore, but is not yet clear of the cross-course.—Middle Lode: In the 40 fm. level, west of cross-cut, the lode is 18 in. wide, with good stones of ore. At Burgess's shaft, below the adit, the lode is 15 in. wide, with stones of ore.

TRELOWETH.—Harrison's shaft, sinking below the 12 fm. level, is down 94 fms. In the past week they have sunk 12 ft., and the lode at present is improved—produce 24 tons good quality copper ore per fm.; the lode is much richer the last 6 ft., and I expect in another week to give you further particulars. I am not certain that we have cut all the lode in the cross-cut, but we have cut the lode in the 12 fm. level, and the lode level south to the south lode. I have set to drive in that direction, and believe we shall find before us the best part of the main lode. The engine-shaft has been sunk in the past week 4 feet below the 45 fm. level, and the 45 cross-cut for the same time is driven 6 feet. If we find the lode continues rich in Harrison's shaft we shall make a 22 fm. level from that shaft.

VICTORIA.—Operations are commenced in the adit north and south, the former by four men at 40s, and the latter by two men at 80s. per fm. We contemplate sinking a shaft on the south adit, to take both the tin and copper lodes in depth. We are induced to resort to this measure from having taken up some good specimens of copper from one of the south lodes, and we believe that we cannot put a shaft at any place better than in the southern part of the set; in doing so we shall have a most convenient distance for flat-roads, and in every respect command the operations of the mine.

WELLINGTON.—The lode in the 50 fm. level, east of the engine-shaft, is from 1 to 2 ft. wide, hard and poor, being composed principally of spar and muddle; in driving north in this level, west of this shaft, we have intersected No. 1 lode, and are driving on it; this lode here is 1 ft. wide, composed of blende, spar, and a little copper ore, but of no value at present. The lode in the 20 fathom level, east and west of the western whim-shaft, is from 1 to 2 ft. wide, producing a little copper ore. In driving north in the western adit we expect we are near the lode, the ground showing favourable indications. We have just commenced sinking the shaft on No. 2 lode under the adit level—lode here 2 ft. wide, producing good stones of ore. Last setting day we set two pitches on this lode under the adit level—four men in each, at 9s. in 14. We expect to reach this lode made complete to the adit level, and now we are driving east and west on the lode by four men in each end. The lode in the east end is split by the cross-course, which was named the last report, but we think these two parts will soon join together; the lode in the west end is 1 ft. wide, worth for tin from 41 to 51 per fm.; this lode, so far as opened on, will pay, the ground being fair for exploring—we now give 21s. per fathom for driving east and west; you will see from this that a great quantity of ground can be opened in a short time. We sold on Wednesday, the 18th inst., 454. 1s. 10d. worth of tin.

WESTON (LEAD).—The following report, from Mr. Adam Murray, jun., was read at the meeting, and referred to in last week's Journal:—This property is situated in a very productive lead district. Its geological position is among the lower Silurian rocks, which appear to owe their elevation to volcanic influences, emanating from a range of rocks similar to those in North Wales. The set is very extensive and contains several lodes; the principal one is the "Rider," known as a most productive one in the contiguity. "White Grit Mine." This lode runs north and south of east 15°, and underlies south; it is of considerable breadth, and traverses the higher ore. In driving north in the western adit we expect we are near the lode, the ground showing favourable indications. We have just commenced sinking the shaft on No. 2 lode under the adit level—lode here 2 ft. wide, producing good stones of ore. Last setting day we set two pitches on this lode under the adit level—four men in each, at 9s. in 14. We expect to reach this lode made complete to the adit level, and now we are driving east and west on the lode by four men in each end. The lode in the east end is split by the cross-course, which was named the last report, but we think these two parts will soon join together; the lode in the west end is 1 ft. wide, worth for tin from 41 to 51 per fm.; this lode, so far as opened on, will pay, the ground being fair for exploring—we now give 21s. per fathom for driving east and west; you will see from this that a great quantity of ground can be opened in a short time. We sold on Wednesday, the 18th inst., 454. 1s. 10d. worth of tin.

WEST RUSSELL.—The lode in the 37 fm. level, driving west from engine-shaft, has greatly improved since last report, having a most kindly appearance, producing at present 2 tons of ore per fm.

WEST WHEEL JEWEL.—The 85 fathom level, west of Williams's cross-course, on Wheel Jewel lode, is worth 61 per fm. In the winze sinking in the bottom of the 70 west lode not taken down in the past week. The 57, west of Hodges's cross-course, on Tolcarne tin lode, is worth 72 per fm.; the stopes in the back of this level are worth 204 per fm. The 57, east of Hodges's cross-course, is worth 51 per fathom. The winze sinking in the bottom of the shallow adit, west of Trengon's shaft, is worth 61 per fm. The stopes in the bottom of the 12, east of Trengon's shaft, are worth 151 per fathom; the stopes in the bottom of the 12, west of Trengon's winze, are worth 241 per fm. The winze sinking in the bottom of the 57, west of Hodges's cross-course, on Tolcarne lode, is worth 204 per fm.

WEST WHEEL VIRGIN.—We are still driving east and west of engine-shaft; the lode has not been taken down in the eastern and since my last report. The lode in the western end is looking well, and the produce for tin very good. About 7 fms. west from the present end we expect to cut another lode, which I believe is a very kindly one. We are also sinking a shaft to cut an adjoining lode, which I fully expect to cut next week.

WHEEL ADAMS.—The rise in the back of the 72 is in a large lode, ground hard but lode productive, about 14 ton per fm.; it is not yet holed to the 6' stopes. The stopes going back north towards the old cross-cut are now carried about 10 ft. wide, and will produce 14 ton of ore per fm. We continue to cross-cut west from the stopes in the 60, and are at present in black ground; but we are sanguine there is more quartz-rose lode further west than the point we have attained. In the 50 we are driving south on the black ground, and I find it to be good stamp work; the 30, north of the old engine-shaft, is suspended for a while. The Smith's shaft is still in fair ground, and requiring to be timbered; it is now down 15 fms. 1 ft. below the 55 fm. level. In the 55 end, north of ditto, the lode is 1 ft. wide, and worth 51 per fm. The stopes in this part are looking fair; but in the south mine they are not turning out quite so much work as usual. We sampled on Saturday last 100 tons (computed) silver-lead ores of good quality.

WHEEL ARTHUR.—June 19.—I have sent you a box of ore from the lode, which is about 5 feet thick, composed of spar, gossan, muddle, and similar stones to those now sent. After I had written to you, some time ago, that we had cut the lode, I found, after driving a little further, that it was only a branch coming from the lode we have now got. I think there is another lode further north, which I shall drive on to cut as quick as possible. This lode being a south underlayer, there is every reason to ex-

pect that, on their coming together, we shall have a large quantity of ore. The other part of the mine is just as last reported on.

—June 24.—I should have written you on Saturday, but was anxious, before so doing, to see how the lode holds down; and I am happy now to say that we have a good course of ore about 5 ft. wide; and if it continues as it is, I shall begin on Monday next to raise and dress a parcel of ore for the market, and get it ready for sale as early as possible.

WHEEL CREBOR.—The 54 end men are engaged in getting the shaft in order, and the other parts of the mine are just as last reported. We weighed on the mine for sampling, on Monday, 33 tons of dry ore (more than we expected); you shall have real weight and assay on Monday. Everything is progressing as regards the engine; the capstan and shears will be holed in a few days. The 190 fms. of 11-inch cable-laid rope for capstan is expected at Morwellham on the 24th. The pitmen and shaftmen commenced their work that day.

WHEEL FANNY.—Hitchin's shaft is sunk 134 fms. On setting-day we set 3 fms. to sink at 84 per fm., and for the month out at 51. 10s., to six miners and three labourers, which it is hoped may be sunk uninterruptedly with tackle only during the time the winch is making. An adit level is progressing, and 130 fms. of it cleared and secured. We have commenced clearing up an adit shaft at the intersection of the north and south lode, to drive a few fms. on its course until we get abreast the engine-shaft, then cross-cut to shaft, and take off all the surface water. Next week we hope to commence to cut our water-course, and take out the wheel-pit. The wheel is getting on rapidly, and I think it will be on the mine in a fortnight.

WHEEL HAMLYN.—The lode going east in the adit end is not looking so well as last week, on account of being more in the line rock, but this we shall get altogether out of in driving about 30 fathoms, when I have no question but we shall have something essential.

WHEEL LANGFORD AND BARING UNITED.—Since my last we have sunk Dore's shaft 4 ft., and are now 3 fms. below the adit level; the ground is still favourable, but an increase of water. We have now in the bottom of the shaft a branch 14 in. wide, underlying south towards the old Harrowbarrow lode about 6 inches in a fathom, composed of spar, peach, muddle, jack, and spots of copper ore, of a rich quality, which will form a junction with the aforesaid lode at about the 20 fm. level, where we may reasonably anticipate a rich deposit of copper ore, and I believe that this mine will shortly prove to be one of the leading mines of the day. In consequence of the increase of water issuing from the branch I have mentioned, we are obliged to abandon sinking the shaft until the winch is erected, which the carpenters are busily engaged in doing. The stopmen are engaged in casing and dividing the shaft, and I hope we shall get the winch erected in the course of a week from this time. The building of the engine-house, &c., will also be completed in the course of a week. We have sunk Baring's shaft 6 ft., and are now 8 fms. from surface; the lode is 4 ft. wide, composed of flookan and gossan, interspersed with jack, muddle, and spots of lead, containing 12 ozs. of silver to the ton. We took down the silver lode on the 21st inst., and broke about 4 cwt. of silver ore, which is improved in quality. I hope to take the parcel of silver ore to the smelting-works on Monday or Tuesday next, particulars of which I will give in my next.

WHEEL PENHALE.—We have now driven the whole length of the ground between the engine-shaft and the caunter winze, and have commenced cross-cutting east from the south end in the 40 fm. level, and also west from the end driven north from the winze; but have not yet cut these two ends in communication. The ground in the former cross-cut is very hard, for which we are obliged to give 104 per fathom to drive, whilst we are only giving 51 per fathom for the latter. By referring to former reports, it will be seen that this north end from the winze has repeatedly been reported as being extended through discoloured and slaty ground. The extent of this ground has been very satisfactorily proved this week—the result of which is the cutting of the lode about 3 ft. to the west of the level by means of the cross-cut extending that way. It appears that a small slide, slightly diverging from the lode, in a more eastern and western direction, crossed this lode about 2 fms. north of the winze, and shifted the north part of it some distance west; and from the point of intersection again, where the lode is very rich, in the cross-cut from the extreme north end, there can be no doubt but that the lode, instead of being "dead" as was considered, is standing by the side of the level back, opposite the point where it was detached by the slide, which runs on from 50 to 60 fathoms of first-rate lead ground, in addition to the 37 fm. level driven on before, worth at least from 2 to 3 tons of lead per fathom, and which will be taken away as soon as this level is communicated with the south end from the engine-shaft for about 40s. per fathom; so you will easily perceive the increased value of the mine from this little incident alone; whilst, at the same time, we have made another very good discovery in the back of the 30 fathom level, about 4 fms. south of the caunter winze, from having a very rich lode below this level. It was strongly impressed upon our minds that there was something good above as well. We accordingly put a pair of men to rise in the back, and have now risen up about 9 ft., where we have a good lode of copper ore, which will produce from 14 to 20 tons per fathom, besides some very good lead work. We have done nothing south of the winze since it was last noticed. The lode in the south-west end, in the 30 fm. level, is yielding very fine stones of lead and copper, and is showing very well. The tribute department, though rather limited at present, is doing its part towards the well-being of the mine, having very much improved since last report. In conclusion, I would say that no shareholder could, were he to visit this mine, leave without feeling great delight in the gay prospects presenting to him.

WHEEL RUSSELL.—The ground in the engine-shaft continues favourable for sinking, having several branches containing quartz, muddle, and copper ore, it being now down below the 48 fm. level 84 fms. No lode has been met with in the 48 fm. level driving south on the cross-course, but have still a branch of ore leading on with the cross-course. No lode has been taken down in the 48 fm. level, west from engine-shaft, since last report. The lode has not been intersected in the 37 fm. level driven north on the cross-course to the east of engine-shaft, the ground still having a very kindly appearance. The driving south on the cross-course, in the 16 fm. level, has been continued, and some favourable indications have been met with, having scattered ore intermixed with the cross-course. The pitches are still looking well, and very likely to yield a good supply for our next sampling. We sampled last week, at Morwellham, 79 tons 18 cwt. 3 qrs. ore of good quality.

FOREIGN MINES.

ALTEN MINING ASSOCIATION.—Estimated produce for May:—

Mines.	Tons of Ore.	Per Cent.	Fine Copper.
Raipas	10	5	0.500
Old Mine	130	5	7.150
United Mines	4	5	0.200
Mitchell's	24	8	0.200
Total	146		8.050

Mining Report from the 23d to the 4th June.

Raipas.—In the 20 fm. level east the lode is rather small and poor at present, however we expect a very favourable change will soon take place; in the same level, on Labouchere's, the lode is upwards of 3 ft. wide, containing gossan and greens throughout, and presenting highly-promising indications; the ground is also speedy and favourable for driving. In the rise above the 20 the lode is 2 ft. wide, containing gossan and purple and yellow ores. The northern cross-cut has been resumed, in the hopes of finding a continuation of Labouchere's lode towards the west, and we hope the north walls now followed will lead to some valuable discovery before long. In the other parts of the mine there is no change. The sink under the 20 is still very promising, but we are now obliged to suspend this working, on account of the great influx of surface water.

United Mines.—The workings have not improved, and the bargain has been suspended, for the purpose of employing the men on the new lode, where the prospects are more promising, and where the lode, although small, still yields sufficient prills and gossan to pay the cost of working. The returns from this mine have lately been very trifling; we expect they will again increase as the summer advances.

The water has driven us out of the most profitable workings in the north-east sink, and the produce will, in consequence, be less than we expected, but we shall, in the meantime, endeavour to increase the returns by surface operations. A continuation of the Old Mine lode has been discovered to the westward, where the indications are very promising, and by the next post we hope to give you some more cheering accounts of this place. The stopes in Slung's sink has somewhat improved, and is again yielding about 4 tons of ore per fm. The first stopes in Freshie's sink, driving north, is also productive, but although the returns have lately somewhat fallen off, the quality of the ore continues equally good. The side stopes in this sink yields profitable returns; and, on the whole, we hope to get on better hereafter. The adit level is still about 16 fms. from the east stopes, and for the purpose of ventilating this place we are now obliged to communicate with one of the western sinks, which will require about two or three months.

Mitchell's.—There is no change whatever here.

Mancus's.—They are again working on tribute on the discovery made last year north-east of the old shaft. The returns are small, but the prospects are good; still the frequent fluctuations before met with here deter us from holding out any hopes of permanent returns. The weather has lately undergone a more favourable change, and the snow is fast disappearing, so that we hope in the course of another fortnight to resume many of the old surface workings, from which we anticipate the usual returns of ore during the summer.

COPIAPO MINING ASSOCIATION.—[Dated April 24, received June 21.]

COPPER MINES—CHECO.—In the 20, east of Harman's shaft, the lode is 18 in. wide, with ore of superior quality. In the 12 there is a good branch of ore, from 18 to 18 in. wide. The stopes yield a fair quantity of very superior ore.

SAN PEDRO.—Here we are raising some ore of superior quality, but not a great quantity, having but two hands employed as pickmen. The lode in the stopes is 8 in. wide, producing very good ore.

LA COMPANIA.—In the 18 east we have a lode 3 ft. wide, yielding beautiful black and yellow ore; a better course of ore I have seldom seen. In the winze under, the lode is 2 ft. wide, but not rich, embedded in beautiful slate, quite congenial for a rich course of ore. The stopes are producing very well. I may say this is a first-class mine.

LA REINA.—The lode is 6 ft. wide in the shaft, the whole metallic, and thickly interspersed with rich copper ore, and the lode in the winze is of the same nature.

FLAMENCO—SAN AGUSTIN.—In the 12 the lode is large, producing a fair quantity of ore, but the ley is only 12 to 15 per cent. In the adit level the lode is large, carrying a branch to the north 1 ft. wide of good ore.

SAN CARLOS.—In each level we have a large well-defined lode, giving occasional stones of ore. We have to persevere and get under the hill.

Produce for March—Checo	Tons 26
La Compania	20
San Augustin	6
La Reyna	6

is looking pretty well; it is 9 in. wide, composed of quartz, interspersed with rose cler, metal, and white silver, a very pretty lode indeed, from which we may fairly calculate on raising a considerable quantity of ore. In the other chuffon north, we have still good stones of ore coming from the lode, which fairly indicates that the lode is good from one chuffon to the other. Now this again is to be a valuable piece of ground, for the two extremes are a great many fathoms apart.

COLOMBO.—In the chuffon at the bottom of this mine we have a lode 3 ft. wide, very metallic, and giving stones of metal, with a little rose cler. In No. 3 level the lode is 18 in. wide, disordered. We have discovered a lode to the north, running obliquely through the set, giving some beautiful plomas, and from whence we may expect some reasonable returns.

DESCUBADERA DE ORO.—We have returned the metal in the last month, which gave 3 ozs. of gold, and we are now breaking a little more. On the whole, our prospects are very encouraging.

LINARES MINES.—The following has been received from Mr. H. Thomas:

Linares, June 14.—The engine-shaft sinking under the 45 ft. level, and the cross-cut from the 55 ft. level to said shaft, are both proceeding satisfactorily. The lode in the 55 ft. level, east of Wilson's shaft, is worth 6 tons per fm., and I am expecting in every report to advise you of this level having drained the Tanteo, which up to this time has not occurred. In driving the same level west of Wilson's shaft, the lode is of a favourable character, and worth 14 tons per fm. The lode in the 45 ft. level, driving west of San Juan shaft, is large, and chiefly composed of gossan, containing a small bunch of lead, worth 1 ton per fm. We have found gossan in other parts of the mine at the same depth, and even in the 55 ft. level. The men driving the cross-cut in the 45 ft. level, east of Shaw's shaft, have as yet met with nothing worthy of notice, nor is there anything new in sinking Shaw's shaft under the 45. Our tribute pitches are turning out pretty well; that working under the 45, east of San Pablo, has much improved during the past week, and at present contains a lode worth from 8 to 10 tons per fm. You will see, on reference to the section, that this is east of the Tanteo, and is promising for continuance of good ore ground in the bottom level, coming eastward.

Ore weighed in this week, 31 tons 14 cwt.; ore in stock, 1033 tons 14 cwt.; pig-lead in stock, 61 tons 16 cwt.

ROYAL SANTIAGO MINING COMPANY.—[Received June 21.]

Cobres, May 12.—The ore which can be raised for the four months ending 31st August must mainly depend on our discoveries from this date; what is at present in sight will scarcely warrant an estimate of 50 tons a month. Should the 10 ft. level west, however, continue to yield as now 10 or 20 tons further, and the 22 strike into the same shoot of ore (which is what we fully expect), we should then probably be able to double, or even treble, the amount. When Mr. Hoskins left, the water could be kept by four mules, changing every six hours; we have now to only eight mules, and to change every three hours. I have had to purchase 14 mules, and to greatly increase the expense of feeding them. We are gradually forking the water, but it is at a very slow rate. The bucket-lift is to be dropped to-day to the bottom of Thompson's shaft. The 22 ft. level continues very wet; the lode is still close, and keeps back the water; we shall probably, when a change in the lode takes place, have an increase for a time from this end. You must not consider this influx of water a bad omen, but the contrary. I look forward to have in this level, before reaching Taylor's shaft, a course of ore, and the end dry; I expect it from the 10 ft. level, having passed through a similar lode previous to its meeting with ore, which ore is evidently dipping eastward. It is now evident we cannot get under the 55 ft. level, in Perseverance, with mule-power, unless another such engine as we have now is put up at another shaft, which would require 50 more mules. The extra expense of working those mule engines over steam would in a very short time cover the whole cost of a steam-engine. We have decided on sinking the engine-shaft (already sunk by Mr. Hoskins) several fms. in Fortitude perpendicular. It is expected to intersect the lode at 70 to 75 fms. under the adit level; it will be indispensable should steam be applied, and will be a great relief to the mules, should they continue to be used. I should have liked to have seen more of the lode developed to the west before I fixed upon the spot for the engine-shaft; but seeing the quantity of water we are likely to have, and also the shoot of ore in the 10 ft. level, which it will command, and very suitably, I think no time should be lost in getting it down to the 32 ft. level. This work will take a great many labourers, and we must, I believe, postpone the trial at Trevenca, as we cannot spare labourers or mules to draw the whim. All our force is now concentrated in the levels and shafts, exploring west of Thompson's shaft, and in the two shafts in the Angellita—the off-shafts and trial cuttings are set to free labourers. The 10 ft. level is 8 fms. west of Taylor's shaft; since I last wrote you the end has given a good deal of muddle, it now again yields from 5 to 9 tons per fm., and looks fair to continue. In the bottom of the level we have been stopping to raise the quantity required to furnish the Sir I. L. Goldmid; the lode here yields 6 to 7 tons of ore per fm., the dust contains as yet (being on the top of the bunch) a great deal of muddle; the stone is very compact yellow ore, and so far is about one third part of the whole raised. In Taylor's shaft the ore is 1 ft. wide, and we expect it to improve in every fathom we sink. There is a little water, which is an hindrance.

ANGELLITA.—Goodhope shaft was not looking so well when I saw it on Friday last in regard to ore. To-day I am told the ore is 1 ft. wide, yielding nearly 2 tons per fm.

MINING APPOINTMENTS.

- JUNE 28.** Pay at Trevenca, Trethellan, Grambler, Condarour, West Seton, Tywarney, South Trevelyan, West Alfred, Copper Bottom, Callington Mines, South Frances, North Rosekar, and Trevelyan.
- 30.** Santa Ana meeting.
- JULY 1.** North Pool account, on the mine; the Forest Mining Company meeting.
- 2.** Devon Consols and other mines sampling; West Wheal Jewel, Callington, and Wheal Golden meetings.
- 3.** Ticketing at Camborne—North Rosekar, Tincroft, and other mines; Wh. Trevelyan at Pay at Wheal Bassett, Carn Brea, and East Pool.
- 4.** Pay at Devon Consols, Parry's, St. George, Dolcoath, Stray Park, Trannack and Bosome, West Wheal Jewel, Polbrou, Par Consols, and Botallack.
- 5.** South Frances account, on the mine.
- 9.** West Alfred account, on the mine; Consols and Trevelyan sampling.

New Patents.

SPECIFICATION ENROLLED DURING THE PAST WEEK.

R. RODMAN, of Gateshead, practical chemist; and **E. R. HOLLYN,** of Stepney, gentleman: For improvements in machinery or apparatus for condensing and purifying smoke, gases, and other noxious vapours arising from fire-places and furnaces, or from chemical and other works, and in rendering the products resulting from such condensation and purification available for the manufacture of various colours. The patentees conduct the vapours and smoke from fire-places and furnaces into a circular chamber through an opening near the top, which is made somewhat of a funnel-shape, to allow room for the vapours to expand and present an extended surface to the action of a series of streams of water admitted through pipes at the top of the chamber. A fan, with blades constructed so as to exhaust the smoke in a downward direction, is caused to revolve within the chamber at a high velocity; and the combined action of the water and fans effectually purifies and condenses the noxious particles, which fall into receivers arranged so that the products which pass beyond the first receiver are condensed in the succeeding one. These products, after having been washed, are said to be suitable for the manufacture of various colours, as to the character of which, however, we are, for any information afforded us by the patentees, left quite in the dark.

Claims.—1. The application of fans or blades, placed within a chamber, and caused to revolve at a high velocity, in combination with a stream or streams of water, for condensing and purifying smoke, fumes, gases, or vapours from their noxious and poisonous particles. 2. The arrangement of receivers to retain the products to be used in the manufacture of various colours.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

R. Fletcher, of Blackdown Farm, in the parish of Ebrington, Gloucester, farmer, for an improvement in obtaining motive power.

J. Brazil, of Manchester, gentleman, for certain improvements in dyeing, and in the preparation of dye-woods.

H. E. Hodges, of Southampton-road, Middlesex, gentleman, and **W. Brockedon,** of Devonshire-street, in the same county, for improvements in surgical instruments.

A. Parkes, of Birmingham, for improvements in separating silver from other metals.

G. J. Firmin, of Lambeth-street, Goodman's-fields, Middlesex, manufacturing chemist, for improvements in the manufacture of oxalate of potash.

J. Holmes, of Birmingham, machinist, for improvements in machinery for cutting and stamping metals.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

Laurie and Marner, Oxford-street, perchless carriage.—**J. Keralake,** Birmingham, boot.—**J. Kimberley,** Birmingham, door-spring.—**B. Hyam,** Manchester, safety pocket.—**G. and H. Levy,** Liverpool, hat cigar holder.—**W. Alcock,** and **W. C. Kilpin,** Friday-street, four-fold portmanteau.—**I. C. Forster,** Newcastle-street, Strand, hat.—**W. Price,** Chancery-lane, spring suspension for baristers' and clerks' gowns.—**J. Fry,** Sunbury Mills, furrows for millstone-face.—**J. Dyball,** Deptford, carriage-springs.—**W. Butcher,** St. James's-place, Bermondsey, self-acting clintney guard.—**G. Myers,** Belvedere-road, Lambeth, window-sashes.

PROVISIONAL REGISTRATIONS.

W. Thomson, King's College, for working of hair.—**J. P. Oates,** Lichfield, perfect equiline valve for brass musical instruments; also, short-action valve for cornets.—**E. Poulson,** Sunderland, reverse levers for shipping.—*Mechanics' Magazine.*

IMPROVEMENTS IN STEAM-BOILERS.—A new construction of steam-boiler has been patented by Mr. Thomas Champion, of Philadelphia, consisting of four or more annular cylinders one within the other, all connected together by tubular braces, and at distances equal to the thickness of each pair of annular surfaces. The tubes contain a number of evaporation openings, so arranged that the steam passes upwards into a steam chest placed immediately above. The fire-box and ash-pit are immediately under the chimney, but not there connected, the products of combustion and heated air passing under the outside annular cylinder, and returning between the interstices of all, which thus form a flue to the chimney. This arrangement allows a free ebullition of the water and passage of the steam, with settlement of dirt and impurities in the lower parts, from whence they may be blown off. A large heating surface is thereby exposed, and rapid evaporation secured. There is some difficulty in constructing these concentric annular cylinders, but to enable the maker to get at the rivets and finish them securely, he leaves the ends open until fixed, when he effectually closes them by metallic plates, pressed against by metallic tapered springs.

THE CORNWALL RAILWAY.—A correspondent suggests whether the time has not arrived for the re-prosecution and fully carrying out the railway from Falmouth to Truro, St. Austell, &c. He says there is plenty of money in the county, trade and commerce good, and a speedy communication with London, and of one part of Cornwall with another, would increase to an enormous extent the best interests of the mining and commercial community. The Cornwall Railway, connecting as it will Falmouth Harbour and Penzance, is destined to vie with Southampton and Plymouth, only let the Government give to the locality its due. It is time for Falmouth and Penryn to see better days, and the sooner leading merchants and capitalists in London visit the locality the sooner will the shares be appropriated, and the requisite amount secured. Its numerous friends are fully determined to raise Cornwall in the estimation of the commercial world.

ON COPPER SHEATHING, AND THE PROBABLE CAUSE OF ITS DETERIORATION.—No. II.

BY JAMES NAPIER, ESQ., F.R.S.

Here we find the presence of other metals, even to 1.5 per cent., thought of no consequence, except as a negative test for the presence of a compound supposed to act deleteriously, which, I think, is sufficiently answered by the analyses given by Mr. Prideaux of five different coppers, where it will be seen that the presence of tin and zinc are greatest in the copper most rapidly destroyed:—

	New cop.	In wear 30 yrs.	17 years.	5 years.	Rapid wear.
Tin	0.08	0.08	0.07	0.10	0.07
Zinc	0.17	0.09	0.14	0.31	0.15
Iron	0.16	0.07	0.26	0.13	0.36
Silver	0.18	0.01	0.14	0.01	0.36
Lead	trace	trace	—	—	trace

It is to be regretted that Mr. Prideaux did not give the amount of copper also in these analyses.

Pieces of each of these coppers were put into sea water having a little sal-ammoniac in it, and exposed for 12 days, when the loss was as under:—

	New.	30 years.	17 years.	5 years.	Rapid wear.
No. 1	5.7	—	5.7	4.6	5.2

Although there is not much to be deduced from these experiments, as they would require repetition, and without sal-ammoniac in the solution, nevertheless the results correspond with Sir H. Davy's views. That which had lasted 30 years is the most pure, and sea water has the greatest action upon it. Mr. Prideaux also examined the effects of the nails used, and says, in some cases they seemed to have acted as protectors to the copper, it being thickest round them; in other cases as negative, the copper being destroyed round them. When tried by a galvanometer the nails were found mostly negative to copper, but when the nails were covered with verdigris and the copper clean, they were positive. It is to be regretted that an analysis of these nails experimented upon was not given, the omission of which takes from the value of the experiment. I here give the analyses of three qualities of sheathing nails, which may be taken as the general character of the nails now in use for copper sheathing. The first two are by Dr. Percy, taken from the *Chemical Gazette* for 1850:—

	No. 1.	No. 2.
Copper	52.73	62.62
Zinc	41.78	24.64
Lead	4.12	8.59
Tin	—	2.64—98.59

No. 1 is said to have corroded rapidly, becoming rotten at the heads and breaking off; No. 2 is good, and had been taken from a ship's bottom after a voyage to India and back.

The next, No. 3, are sample nails exhibited at the meeting of the British Association, Swansea, analysed by Mr. John Cameron:—

	No. 3.
Copper	60.0
Zinc	34.8
Lead	0.7
Tin	3.8
Iron	0.3—99.6

The application of any of these nails to fasten copper is a very questionable practice. About two years ago, Mr. Prideaux resumed the subject of inquiry into the causes affecting copper sheathing, in a series of papers published in the *Mining Journal*, in which it appears that little or no advance has been made to our knowledge of this subject since his former communication to the British Association. In these letters he says,—"With respect to the quality of the metal, I have been called upon to analyse many specimens of good and bad wearing sheathing, old and recent, and to examine a great many more, and have not found in the analyses any characteristic or constant difference between the bad and the good, nor have those which wasted quickest, nor were worst at sea, been uniformly or decidedly more susceptible to corrosive agency in the laboratory than the very best old samples."

How valuable would a table of these analyses have been, to enable others to draw conclusions, as very often men employed constantly in any particular branch investigate with certain pre-conceived expectations, which cause them to overlook many important circumstances; hence we find Mr. Prideaux expecting the same kind of results in the laboratory as on the vessel, and with this view he adds,—"I have from 20 to 30 samples, distinguished for good or bad sea wear, fixed to a buoy in the tide-way under exactly similar conditions, and when these come to be stripped off, if the greater or less waste correspond to their previous sea wear, it may be then fairly referred to quality of the metal, and will form a more trustworthy ground for analytical inquiry." The results of these trials with an analysis of each specimen, I hope, will yet be given to the world.

A trial somewhat similar was made at the request of Dr. Percy, by Capt. James. Specimens of different coppers were kept in sea water for nine months, the loss of each per square inch is given thus:—

Electrotype copper lost	1.4
Copper with arsenic	1.2
Copper with phosphorus	none.
Specimen copper, marked "from Frolic"	1.12
Copper (supposed cementing)	0.8
Copper from dock-yard	1.66
Ditto	3.4
Ditto	2.48
Ditto	2.33
Yellow metal (Muntz's)	0.95

Here again want of careful analysis of every specimen, and particulars of condition, render this otherwise interesting experiment useless as data for a proper investigation; however, the object of the experiment was, no doubt, gained by the comparing of alloys of copper and phosphorus with ordinary metals. The results are interesting, and may be usefully applied. The analysis of such an alloy is given in the same paper, whether the exact one subjected to the above experiment is not mentioned:—

Copper	55.72
Iron	2.41
Phosphorus	2.41—100.54

Experiments from which we are to deduce an application to such purposes as sheathing, may lead to false results, not being in accordance with the conditions of application, such as where one sheet of copper overlaps another, making a connection extending over the whole external surface of a ship, and embracing thousands of plates. Where a slight variation in the composition of a few will induce an electrical action throughout the whole, and thus give results entirely different to suspending any single sheet, so that we must make our experiments under the same condition, or have a thorough understanding of how to apply the results got from single sheets to the conditions to which they may be applied, such as the clear connections which characterises Sir H. Davy's inquiry, and from which I have no hesitation in saying, that were a ship sheathed with a mixture of all these coppers given in Captain James' experiments, the few sheets of Dr. Percy's alloy of copper and phosphorus would induce a rapid waste of the whole, and to analyse those sheets destroyed first and those wearing best, we would have the conclusion that impure copper is best for sheathing.

ACCIDENTS.

Alarm in Occurrence in a Colliery—Extraordinary Preservation.—A most serious casualty happened yesterday week at the North Side Colliery, Bedminster, near Bristol, by which 40 human beings were in an instant buried alive. Some hundreds of the relatives and friends of the missing men were immediately on the spot, and the scene was of the most heart-rending description. It appears that at about 11 o'clock on the day in question, in ascending the shaft, a cart-load of coal struck the side and carried away a portion of the timbering, which, falling with a quantity of earth work on that below, a scene of the utmost havoc ensued. The shaft is 135 fathoms deep; the first breakage took place 93 fms. from the surface, and for 30 fms. below all communication was broken off. After much exertion, it was found that only two men, William Braine and Morgan Phillips, were in the top vein, who were extricated about 3 o'clock on Saturday morning, the other 38 being in the lower seam, 15 fms. deeper, where the air was known to be so foul that it was supposed they must have ceased to live. After almost incredible perseverance in pumping in fresh air, and clearing and retimbering the shaft, it is most gratifying to state that by 7 o'clock on Saturday evening the whole 40 men were safely brought to surface, some of them in a state of severe exhaustion. Some further remarks on this extraordinary case will be found in another column.

Holmbush Mine.—John Gartrell was killed by the falling of a large stone in the engine-shaft, which struck him on the head.

Swansea.—John Thomas, aged 12, had his leg so severely crushed by the trams in Mr. John Calvert's pit that amputation was imperative; but he is doing well.

Brierley Hill.—J. Jones was dreadfully injured at the Trough Pits by a fall of coal.

Waterhampton.—David Jones was killed at the Birchill Colliery by a skip falling on his head while being drawn up the shaft, and dashing out his brains.

Hartlepool.—As W. Whelpdale was ciling the machinery at Middleton Foundry, it caught his clothes and broke all his ribs on one side. He is not expected to recover.

St. Austell.—John Crossman was killed at the Rocks Mine by a fall of roof.

Trineydon.—W. Morgan fell down the Hendrelais shaft, and was killed.

Jace.—J. Rothwell was killed by a fall of roof in Mr. Johnson's colliery, Platt's-bridge.

Chabent.—W. Whittle was killed by a fall of coal in Messrs. Fletcher's colliery.

Pemberton.—A. Davison, aged 10, was killed by the trams at Mr. Banks's Colliery.

Wigan.—Henry Anderton was killed by an explosion of fire-damp in Mr. Case's pit.

Durham.—R. Brown was drowned by an outbreak of water in the Mary pit.

St. David's.—J. Richards was killed by a fall of earth in Aberlthy Quarry.

Current Prices of Metals, Stocks, & Shares.

METAL MARKET London, June 27, 1851.

ENGLISH IRON.	per ton.	ENGLISH LEAD.	per ton.
Bar, bolt, & square, London	£3 5 7 1/2	Tile	£23 0 0
Nail rods	6 2 6 5	Old copper	per lb. 8 1/2
Hoops	7 0 0 7 1/2	Yellow Metal Sheathing	per lb. 11 1/2
Sheets (single)	7 12 6 7 1/2	Wetterstedt's Pat. Metal	per lb. 12 0
Bars, at Cardiff & Newport	4 10 0 4 15	FOREIGN COPPER.	
Refined metal, Wales	3 0 0 3 5	South American, in bond	77 0 8 7 0
Do. anthracite	3 10 0	ENGLISH LEAD.	
Pigs in Wales	3 0 0 4 0	Pig	per ton 17 0 0
Do. do. forgo.	2 5 0 2 10	Sheet	per ton 18 10 0
Do. No. 1, Clyde, net cash	1 19 6 2 0	Pipe	per ton 19 0 0
Blewett's Patent Refined Iron	3 10 0	Red lead	per ton 19 0 0
for bars, rails, &c., free on board at Newport	3 10 0	White ditto	per ton 24 0 0
Do. do. for tin-plates, boiler plates, &c., ditto	4 10 0	Patent shot	per ton 20 10 0
Stirling's Patent	2 15 0	FOREIGN LEAD.	
Toughened Pigs in Wales	3 10 3 15	Block	per ton 4 4 0
Staffordshire bars, at the works	5 5 0 6 0	Bar	per ton 4 5 0
Rails	5 0 5 2 6	Refined	per ton 4 10 0
Chairs (Clyde)	4 0 0	FOREIGN TIN.	
FOREIGN IRON.		Banca, H. C.	per ton 4 1 4 2
Swedish	11 10 11 12 6	Straits	per ton 3 19 4 1
CCND	17 10 0	TIN-PLATES.	
PSI	—	IC Coke	per box 1 5 6
Gouffier	—	IC Charcoal	per box 1 11 0
Archangel	—	IX ditto	per box 1 17 0
FOREIGN STEEL.		SPELTER.	
Swedish	14 0 0	Plates, warehouse	per ton 14 12 6
Ditto fagot	15 0 0	Ditto, to arrive	per ton 14 15 0
ENGLISH COPPER.		SILVER.	
Sheets, sheathing, & bolts, p. lb.	0 0 9 1/2	English sheet	per ton 21 0 0
Tough cake	per ton 81 0 0	QUICKSILVER	per lb. 3s. 9d.

Terms.—a, 6 months, or 24 per cent. dis.; b, ditto; c, ditto; d, 6 months, or 3 per cent. dis.; e, 6 months, or 2 1/2 per cent. dis.; f, ditto; g, ditto; h, ditto; i, net cash; j, 6 months, or 3 p. cent. dis.; m, net cash; n, 3 months, or 1 p. cent. dis.; o, ditto; l, dis. Cold-blast, free on board in Wales. † Dis. for cash in 14 days, 10 per cent.

WELCH BAR-IRON is in moderate demand. In railway bars some large orders are in the market, on American account principally. Bond payment.

STAFFORDSHIRE IRON is more inquired for, and there is a good business doing.

SCOTCH PIG-IRON is firm; No. 1, free on board, storekeepers' warrants, may be quoted at 40s. Mixed Nos.—viz., three-fifths No. 1, and two-fifths No. 3, 39s. 9d. American

SWEDISH IRON is quite neglected. [Brands, 40s. 6d.]

SWEDISH STEEL.—A parcel of about 50 tons has been sold at 13l. 15s. over ship's price.

FOREIGN TIN.—A large business has been done in Banca at 80l., and 81l. East India

SPELTER.—100 tons have changed hands at 14l. 12s. 6d. per ton, to be shipped from the German ports during the months of August and September.

LEAD.—A large trade has been done at rates which have not transpired.

TIN-PLATES.—A good business is doing.

GLASGOW, June 26.—The pig-iron market, since our last, has been dull, and no improvement in prices has yet taken place, notwithstanding the very large shipments.

Warrants for good middling brands, mixed Nos., free on board, are 39s. 6d. to 39s. 9d. per ton, cash; No. 1, Gartsherrie, 41s. 6d.

An idea prevails that, from the large number of furnaces in blast since 1st January, stocks must have increased to a considerable extent. To this circumstance we have devoted some attention, and from returns supplied by the different ironmasters, we are enabled to state that the stocks in makers' hands are, on 20th June, about 113,000 tons; in stores, 114,000 tons. Total stocks, 227,000 tons. As compared with the calculations formerly submitted, based on an average of out-put from each furnace of 120 tons per week, the production will be to date nearly 300,000 tons; add stock as on 31st Dec., 240,000 tons.

—Total production and stock 540,000 tons.

Less shipped to 1st June 216,000

Less consumed in local foundries and malleable iron-works. 100,000—316,000 tons.

Leaving on 1st June as stock on hand 224,000 tons.

The Scotch Iron Trade—Furnaces in Blast.

Gartsherrie	15	Monkland	9	Forth	4
Clydebank	7	Cowlston	6	Kinnell	4
Clyde	3	Clyde	3	Lagar	4
Govan	4	Shotts	4	Eglington	4
Calder	5	Castellhill	2	Lochelly	4
Langloan	6	Blair	2	Dalmellington	2
Carnbroe	3	Muirkirk	2	Portland	2
Glenarnock	9	Devon	2		
Summerlee	6	Carron	2	Total	110

THE IRON TRADE OF SOUTH STAFFORDSHIRE.

STOUBRIDGE, June 27.—The critical position of the iron trade of South Staffordshire, Worcester, and Shropshire, during the last quarter, rendered the meeting, preliminary to the usual quarterly meetings, held at Stewpony, yesterday, one of unusual interest. The attendance was numerous, and comprised the representatives of most of the leading firms of the district.

It is notorious that, since the meetings held in April, the prospects of the iron trade have been anything but encouraging. To whatever cause this untoward condition of the manufacture may be ascribed, the prices resolved upon at Wolverhampton and Dudley have not been firmly maintained, and, in some instances, business has been transacted with difficulty at any rates which could be obtained. Common qualities of iron, rods and bars, are said to have been sold from 5s. to 15s. per ton below the nominal prices, and other descriptions have shown a still wider range; sheets as far as from 20s. to 25s. In pig-iron there has been an unusual variation of 20s. between the extreme qualities. The same authority states that the price at which pigs were bought was mainly dependent upon the circumstances of the makers; while the interests of South Staffordshire have been seriously affected by the production of vast quantities of inferior metal, quality has been altogether disregarded.

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The arrivals at Swansea include—A cargo of copper ore from San Antonio (consigned to order); 500 tons of copper ore from Valparaiso; and about 450 tons of copper ore for the Cobro Company.

We understand Messrs. Bankhart have given notice that it is their intention in future to offer for all copper ores submitted for sale at the public ticketings in Cornwall, and that they are ready to pay cash on delivery, upon being allowed discount after the rate of 3½ per cent. per annum.

The shareholders of the Tincroft Mining Company are summoned to attend a meeting on the 17th July, when the report of the committee will be submitted. It is generally considered that a copy of the report should be forwarded to the directors, that they may be prepared with information on such matters as may require explanation.

South Tamar Mines sold on Thursday 95 tons of lead ore, at 15l. 7s. 6d. per ton, to Locke, Blackett, and Company.

The biddings for 100 tons of Newtonard's lead ore varied from—Pontifex and Wood, 8l. 8s., to that of the purchasers, Newton, Keats, and Co., at 10l. 5s. 6d. per ton.

Callington Mines sampled 45 tons of lead ore.

Trelawny Mine sampled 100 tons (computed) silver-lead ore, of good quality, on Saturday last.

Great Wheal Badden sampled on Saturday about 60 tons of lead ore, and a further sampling will take place on the 30th July; this concern seems steadily to be progressing, both in actual returns of ore and in the discovery of new ore ground, some of which is of superior quality. The 51 fm. level produces already a considerable quantity of ore, and when further developed there is every reason to expect it will be enhanced both in quantity and amount. The stope is highly productive, and the tribute pitches doing well.

The tin obtained from the Great Polberro Mines in the present month will be about 26 tons, and for the last two months 56 tons. The pitches continue to yield about the usual produce.

Wellington Mines sold on the 18th inst. about 45l. worth of tin.

Lewis Mines have sampled 30 tons of tin.

East Wheal Leisure sampled on Tuesday 147 tons of copper ore. The tribute department is looking well, and 50 tons per month anticipated from the ore ground already opened.

Wheal Russell, sampled on Friday 80 tons of copper ore.

At Wheal Crebor, 32 tons of copper ore have been weighed this week.

At East Wheal Russell some splendid gossan, strongly stained with "greens" of copper, has been raised from Murchison's shaft.

At Treloweth Mine, the shaft at Harrison's is nearly down 22 fathoms, lode yielding 2½ tons of good quality ore per fm. The engine-shaft under the 45, and cross-cut in that level, are progressing favourably.

At Calstock United Mines, we understand they have cut into a lode on the common, which shows a favourable appearance for copper ore. Some good stuff has been brought to surface by the drawing-machine, which was set to work on the 19th. The Bentinck stamps were also put to work; the others will be very shortly. The ovens of the burning-house, buddles, racks, &c., are completed. The silver workings are let on tribute at one-fifth clear to the adventurers. In a week the kilns will be ready to receive mundie, when regular monthly returns will be made, and tin bi-monthly.

At East Wheal George, as expected, by driving the cross-cut south in the 23, they have found the main part of the lode standing, and which presents a very kindly appearance, 3 ft. wide, saving work. The lode in the winze under the 12 west is worth from 8l. to 10l. per fm.

At Wheal Golden, Thorne's shaft is sunk and cased to 8 ft. under the 87 fm. level; and on driving an 87 fm. level the returns will be greatly increased, as the lode is productive both north and south. In the winze under the 77 south the ground is good, producing 9 cwt. of ore per fm., and north 7 cwt. per fm. The 70 north produces 6 cwt. per fm., and the rise in ditto 10 cwt. per fm. In the 60 north the ground is moderate, producing 3 cwt. per fathom. Webb's shaft is communicated to the 70. Young's shaft will be immediately commenced. The tribute pitches are looking very well.

At Wheal Anna Consols, some parts of the engine have been already delivered; and the most active exertions are being made by Capt. Puckey to expedite operations.

We have the pleasure of referring to the report on Caradon Wood Lead Mine from the manager, Capt. R. Dunstan, of West Caradon, in our Mining Correspondence. It is believed that this cannot fail to prove a profitable and lasting concern.

An improvement of an important nature has been reported in Wheal Venton. The north end in the 30 fm. level is producing fine stones of lead, and continues improving; the lode in the south end is cut, but is at present disordered.

We are informed that a deputation have inspected Wheal Tonkin, and have satisfied themselves of the correctness of the several reports from Capt. Spargo. This visit to the mine was occasioned by the insinuations of "Watchman," in a former Number of the Journal, which are now proved to be perfectly groundless.

At the Kenmare and West of Ireland Copper and Silver-lead Mining Company's meeting, on Thursday, Robert J. R. Campbell, Esq., in the chair, the reports of Capt. Hoskin, Paul, and Thomas, were read, and gave unanimous satisfaction. The chairman stated that the board of directors and secretary had recently returned from their visit of inspection; that the superintendent was willing to receive a per centage from the actual returns in lieu of a fixed salary, and the property had been duly made over to the trustees nominated for the benefit of the company. The superintendent's report, with the proceedings of the meeting, will be found in another column. It affords us much pleasure to learn, that Capt. William Thomas, manager of the Cosheen and other mines in the county of Cork, has been appointed manager of the Kenmare Mines. We think a more judicious selection could not have been made than the appointment of this gentleman, as from his long experience in Irish mines, and having surveyed the property in question as far back as 1846, and being intimately acquainted with the different strata of the district, there is every prospect that, in his hands, the mines will not only be economically and systematically worked, but speedily brought into a profitable state of operations.

At the Wheal St. Agnes meeting, on Saturday, the accounts were examined and passed, showing—Labour cost for March, 38l. 2s. 1d.; ditto April, 30l. 0s. 11d.; May, 35l. 8s. 7d.; merchants' bills, 122l. 6s. 4d.—215l. 17s. 11s.—By call, 128l.; leaving balance against the mine of 87l. 17s. 11d. A call of 1l. per share was made, and the salaries of purser and manager were fixed at 2½ guineas per month each.

At the Nanseogollan Mine meeting, on Monday, the accounts were examined and passed, showing—Labour cost for four months, to end of May, 401l. 16s. 6d.; cost of 30-inch cylinder engine, with boiler complete, 625l.; merchants' bills, 475l. 8s. 7d.; dues, 1l. 7s. 1d.—1503l. 12s. 2d.—By balance last account, 25l. 7s. 8d.; tin sold, 27l. 1s. 9d.; call, 640l.; leaving balance against the mine, 811l. 2s. 9d. A call of 4l. per share was made. The report states that the engine is working well, and the mine will soon be cleared out. The daily consumption of coal will not exceed 4 cwt., so that the water charge will be easy. The lodes traverse east and west, or as nearly so as any in the county, and appear to be the same as the Great Work lodes.

At North Wheal Robert quarterly meeting, David Halket, Esq., in the chair, the accounts to the end of April showed—Calls, 2048l.; discount, 15l. 1s. 10d.—2063l. 1s. 10d.—By purchase of sett and materials, 1000l.; working cost for three months, including merchants' bills, 893l. 13s.; office expenses, 54l. 1s. 6d.; books and stationery, 24l. 7s. 7d.; printing and engraving, 19l. 10s.; leaving balance in hand to next account of 71l. 9s. 9d. The call made, 512l., will about meet liabilities estimated to end of July. The erection of machinery and other surface operations have progressed very satisfactorily; in two or three weeks the water-wheel will be at work, and the sinking of the engine-shaft resumed.

At East Boringdon Park meeting, the accounts showed—Call, 512l.; discount, 2l. 9s. 2d.—514l. 9s. 2d.—By working cost, 67l. 16s. 4d.; office expenses, 5l. 5s.; printing and engraving, 10l. 13s.; books and stationery, 3l. 10s. 6d.; leaving balance in hand to next account, 427l. 4s. 4d. The engine-shaft is sunk 13 fms. from surface; when down to 20, cross-cuts will be driven out to see the lode. The shode pits east and west show a fine gossan, and a productive concern in depth is anticipated.

At a special general meeting of shareholders in Trebell Consols Mine, Stephen Broad, Esq., was deputed to visit the mine early in the ensuing week, to meet the agents and engineers, and arrange for an engine and stamps, with the necessary buildings, to be erected immediately.

At Cook's Kitchen meeting, the accounts showed—To costs for March, 998l. 16s. 5d.; April, 915l. 2s. 5d.; dues, 55l. 8s. 3d.—1969l. 7s. 1d.—Balance from last account, 161l. 14s. 2d.; copper, tin, and arsenic sold, 1753l. 0s. 6d.; sundry receipts, 44l. 6s. 7d.; leaving balance against mine to next account, 10l. 5s. 10d.

At the Derwent Mines meeting, convened for yesterday, was not held.

At Wheal Friendly meeting, on Monday, the accounts from June, 1850, to April, 1851, showed—Mine costs and merchants' bills, 1643l. 15s. 6d.—Balance from last account, 53l. 10s. 9d.; ores sold and carriage, 1552l. 1s.; leaving balance against adventurers, 38l. 3s. 9d.

At Wheal Cock meeting, on Monday, the accounts showed—Balance last account, 171l. 1s. 6d.; costs to end of April, 694l. 3s.—865l. 4s. 6d.—By call, 200l.; tin sold, 667l. 10s. 4d.; sundry receipts, 15l.; leaving balance in favour of adventurers, 17l. 5s. 10d.

At North Tolguis meeting, on the 10th inst., the accounts showed—Balance last account, 46l. 12s. 9d.; labour cost for February and March, 428l. 10s. 3d.; merchants' bills, 217l. 11s.—692l. 14s.—By call, 640l.; leaving balance to next account, 52l. 14s.

Shares have changed hands in Alfred Consols, South Caradon, West Caradon, Bedford United, South Tolguis, Trehan, Trefusis, Tincroft, East Buller, East Tamar, South Tamar, Trelawny, Mary Ann, Butterdon, Tremayne, Bodmin Consols, Crebor, Caradon United, Wheal Arthur, Wheal Venton, Merilyn, Cook's Kitchen, Tincroft, Garreg, Wheal Lemon.

From the Alten Mines, advices have been received up to the 4th inst. The 20, at Labouchere's, is upwards of 3 ft. wide, containing gossan and greens throughout, and presenting indications that are highly promising. At the Old Mine, the water has driven them from the most profitable workings. The stope in Slungi's sink has again improved to 4 tons of ore per fm., quality of the ore very good. As the snow is fast disappearing, the surface operations will shortly be resumed, and increased returns may then be expected.

From Linars, we notice matters progressing generally; a pitch working under the 45, east of San Pablo, has much improved, the lode being now worth from 8 to 10 tons of ore per fathom. Ore weighed in for the week, 14th June, 31 tons 14 cwt.; in stock, 1033 tons 14 cwt.; and pig lead, 61 tons 16 cwt.

From the Copiapo Mines, advices have been received to the 24th April. The produce of copper ore for March is rather less than February; still the reports from Capt. Waters and Nancarrow are of the usual flattering character, and hold out great expectations for the future. Ore of very superior quality has been met with in sundry places, as will be seen in another column, where the reports are inserted in full. A party of Cornish mining lads, from 17 to 19 years of age, are on their way to the mines, where they seem to have vacancies, and these parties will, therefore, prove a great acquisition.

From the Santiago de Cuba Mines, advices up to the 12th of May have been received. The 10 continues good, and they daily expect to meet with the same shoot of ore in the 22, which would tend to increase the monthly returns very considerably. No time should be lost in getting down to the 32 fm. level.

The General Mining Association held their annual meeting on Thursday, when the report and accounts were unanimously adopted, and a second dividend of 10s. declared for the half-year. The operations of the company continue to be satisfactory, and the shipments of coal have increased during the year.

At the Marmato Gold Mining Company's meeting, on Monday, the accounts for the three years the company has been in existence were audited and allowed, showing net profits made, \$256l. 2s. 1d., whereof a dividend of 2700l. for the half-year had been paid in Jan., and the second half, 2700l., was now declared; leaving a cash balance in hand to next account of 2856l. 2s. 1d. Capital expended, 6750l., all of which, except 1350l., had been repaid to the shareholders, who would receive a further dividend in Jan. of 1l. per share, and in all probability 2l. 10s. per annum, such was the satisfactory nature of their proceedings.

From Bolivia, it is stated that the news from the mining districts of Corocoro is very cheering—53,834 quintals of copper, the produce of that place, had been shipped from Arica last year, and the monthly production of silver from this quarter alone amounted to 900 marks.

The exports of mineral produce from the republic of Chili in 1850 consisted of—silver in bars, ores, and ingots, of the value of \$3,957,253; gold coined, \$697,556; gold dust, \$35,343; copper in bars, ores, and in sheets, \$3,088,467; giving a total value of about 1,620,000l. exported from the republic during the year, of which 824,400l. was in gold and silver, and 643,400l. in copper.

The exportation of ores and metals from the port of Copiapo during the first quarter of the present year amounted to 137,574 marks of silver, 12,859 lbs. copper in bars, 457,929 silver in ingots, 93,247 lbs. copper ore.

The indefatigable managing director of the enterprising Anglo-Californian Gold Mining Company will be in Birmingham on the 30th inst., to obtain shareholders' signatures to the Deed of Constitution: his time appears to be very valuable, he having to leave that town, after a brief stay, to proceed to others in the north of England, the shareholders being so numerous. As they will probably have for the first time the pleasure of meeting the director personally, it would be well that they should ascertain the locality of the company's possessions, and the whereabouts of the illustrious engineer-in-chief. The missing dividend, promised in last October, possibly will now be divided among them; in such case the remaining shares cannot fail to obtain a premium, or at least, as much as they are worth. The deed once signed, the shareholders may obtain a knowledge of their liabilities, though they remain ignorant of the site of their "El Dorado."

HULL, THURSDAY.—Messrs. T. W. Flint and Co. state that the market for mining shares remains without much animation, but if anything, there is a slight improvement rather than the reverse. Tremaynes keep pretty steady; Wellingtons might be bought below 6½; Alfreds, buyers 14½, sellers 15½; St. Aubyn and Grylls, sellers 5½; Transnack, sellers 8½.

IMMENSE COAL BED IN AMERICA.—A correspondent has forwarded an account of a wonderful deposit of mineral at Straitsville, Ohio, which is said to exceed anything of the kind discovered in the world. He writes,—"Reports of an immense structure of coal in the vicinity of this place have long been circulated in Central Ohio. I first heard of it in the winter of 1838-9; it was then reported to be about 90 feet thick. Further examinations ascertained the thickness of the uncovered part, in the face of a deep ravine, at 112 ft. A few days since a gentleman of high standing informed me that an acquaintance of his, with some others, had stripped the upper surface of the bed, and bored through the coal stratum to ascertain its thickness, and found it to be 138 ft. About 10 miles south of that mine, I found a vein of carbonate of iron implanted similar to a slaty structure, with an easy cleavage, which is full of well-preserved leaves of the coal formation. Some of them on breaking open, exhibit the green of the leaf. The ore, by analysis of Professor Rodgers, contains 44 per cent. of iron."

ARIGNA IRON AND COAL COMPANY.—Mr. Frank Gibson, of Westmoreland-place, City-road, has petitioned the Vice-Chancellor that this company may be finally wound up, under the arrangements of the Winding-up Act. He states that the capital of the company was to have been 300,000l., in 500 shares. After a large expenditure great losses were incurred; the directors sold the whole of the mines, since which others had been appointed, and there was at present invested in Three per Cent. Bank Annuities, in the Bank of England, in the names of trustees, the sum of 11,034l. 9s. 7d. There are about 50 shareholders, and the petitioner holds 50 shares.

A new forge and rolling mill are about to be erected at Ystalyfera, and preparations are now making for the commencement of the works.

THE ABERDARE IRON COMPANY AND THE CRYSTAL PALACE.—The great iron girders of the transept of this magnificent building were manufactured at the Aberdare Iron Company's works, which are now under the active superintendence of Richard Fothergill, Esq. They are perhaps as fine specimens of "hammered iron" as have ever yet been produced.—*Swansea Herald*.

SUPPLY OF COAL TO THE GREAT WESTERN RAILWAY.—We are happy to state that John Calvert, Esq., has again obtained the contract for the supply of coals to the Great Western Railway Company. But for the strenuous exertions of Mr. Calvert to obtain the contract, numbers of workmen must have been out of employment, as the supply of coals required by the company amounts to from 300 to 400 tons per day.—*Swansea Herald*.

BLACK DIAMOND.—A remarkable contribution has just been made to the collection in Hyde Park—an immense black diamond, in the rough state, from Bahia, contributed by Mr. J. Mayer, of Liverpool, so hard that it has hitherto defied the lapidaries to polish it, and weighing 350 carats.

CHLOROFORM A PROPPELLING POWER.—Experiments with chloroform as a propelling power, in the place of steam, are now making in the port of Lorient; and there is reason to hope, from the success which has already attended them, that they will result in causing a considerable saving to be effected in cost and in space.—*Galignani*.

IRON PLATES FOR PLATE-GLASS.—At the manufactory of Messrs. Hawks, Crawshaw, and Sons, a large cast-iron plate has been made, weighing about 20 tons; it is for the enterprising firm of R. W. Swinburne and Co., plate-glass manufacturers, Newcastle. A larger plate is now in hand for the same firm, which will have a planed surface 18 feet 4 inches long by 10 feet 10 inches wide, and will weigh 25 tons; this will be, we believe, the largest cast-iron plate ever made for a plate-glass casting table. Both plates will be planed perfectly smooth on the surface in a large planing machine.—*Gateshead Observer*.

LEAD ORES

TICKETINGS FOR ABOUT 100 TONS NEWTONARD'S LEAD ORE.

Bidders.	Douglas, Isle of Man, 25th June.	Price per Ton.
Newton, Keates, and Co. (purchasers)	£10 5 6
Tamar Smelting Company	9 18 0
Thomas Somers	8 8 6
Sims, Williams, Nevill, and Co.	9 10 6
Walker, Parker, and Co.	10 1 6
Pontifex and Wood	8 8 0
Locke, Blackett, and Co.	9 10 0

Ticketings at the King's Head Hotel, Holywell, on the 25th June.

Mine.	Tons.	Price per Ton.	Purchasers.
Pant-y-mwyn	20	£10 11 0	Walker, Parker, & Co.
Pent-y-henblas	60	10 18 0	ditto
Westminster	50	11 3 0	J. P. Eytton
ditto	50	10 18 6	Walker, Parker, & Co.
ditto	50	10 19 0	Mather & Co.
Jamaica	40	8 7 0	Newton, Keates, & Co.
Maesyafn	80	10 17 0	Walker, Parker, & Co.
Halkin Hall	50	10 13 6	J. P. Eytton & Mather
Milwr	20	11 10 0	Newton, Keates, & Co.
Pant-y-frith	8	11 8 0	J. P. Eytton
ditto	4	13 12 0	ditto
Bwlchgwyn	30	10 16 6	Walker, Parker, & Co.
ditto	5	10 16 6	ditto
Shalloe	40	16 10 0	ditto
Machynlleth	32	11 5 6	Newton, Keates, & Co.
Total number of tons	.....	498l.	

Sold at the Mine.

Wheal Golden	52	£12 18 6	Walker, Parker, & Co.
East Wheal Rose	39	13 1 0	Tamar Company.
ditto	15	14 0 0	Locke, Blackett, & Co.
ditto	6	15 7 6	Tamar Company.

BLACK TIN

Mine.	Tons.	Price per Ton.	Purchasers.
Tincroft	.....	£42 5 0	Calenick Co. and Bissoe
Ditto	2	21 7 6	Calenick Smelting Co.
Lewis	24	48 0 0	Danbuz; Bolitho; Williams; Bissoe.
Ditto	6	41 10 0	

COPPER ORES.

Sampled June 4, and Sold at Swansea, June 24, 1851.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	94	16½	£12 2 0	Berehaven	127	10½	£7 9 0
ditto	90	15½	11 18 0	ditto	126	9½	7 5 0
ditto	73	24½	18 10 6	ditto	80	10½	7 6 0
ditto	68	24½	18 10 6	Knockmahon	108	6½	4 16 6
ditto	66	24	17 14 6	ditto	53	8½	6 9 6
ditto	7	17½	13 13 6	Kaw-aw	58	18½	13 10 0
ditto	5	73½	52 11 0	ditto	50	18½	13 12 6
ditto	102	15½	11 7 6	Waterloo Slag	54	3½	2 4 6
ditto	100	15½	11 10 0	ditto	10	2½	1 1 6
ditto	67	23½	17 13 6	Aberdovey	30	8½	6 0 0
ditto	15	20½	16 6 6	Manx	20	11	0 2 0
ditto	6	68½	80 3 0	ditto	3	5½	3 10 0

TOTAL PRODUCE.

Cobre	683	£10,196 15 0	Waterloo Slag	64	£130 18 0
Berehaven	333	2,449 13 0	Aberdovey	30	180 0 0
Knockmahon	161	864 5 6	Manx	23	12 10 0
Kaw-aw	108	1,472 19 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

English Copper Company	Tons.	Amount.
Grenfell and Sons	175	£1512 15 7
Sims, Williams, and Co.	35	275 10 0
Vivian and Sons	256	3346 16 0
Williams, Foster, and Co.	576	4390 11 4
Mines Royal	53	343 3 6
Schneider and Co.	50	681 5 0
British and Foreign Copper Company	58	1769 7 7
Mason and Elkington	30	180 0 0
Low's Patent Copper Company	40	295 0 0
Total	1402	£15,307 0 6

Copper Ores for Sale July 15.—Berehaven, 659—Cobre, 242—Kaw-aw, 168—Tungkillo, 78—Creewtown, 47—Lackamore, 43—Barra Barra 20.—Total, 1257 tons (21-cwts.).

AVERAGES.

Produce.	Price.	Standard.
British	8½	£5 19 0
Foreign	19½	14 15 0
Sale	141	£10 11 0
Totals—British, 611; Foreign, 791=1402 tons (21-cwts.).		£89 0 0

AVERAGES OF LAST SALE.

Produce.	Price.	Standard.
British	10½	£7 12 0
Foreign	20 3-16	15 0 6
Sale	18	£13 7 0
Totals—British 474; Foreign, 1618=2092 tons (21-cwts.).		£86 15 6

COPPER ORES.

Sampled June 11, and Sold at Lendaryou's Hotel, Truro, June 26.

Compiled June 11, 1895, from the London and Lancashire Directories, 1895, 1896, and 1897.					
Mines.	Tons.	Price.	Mines.	Tons.	Price.
United Mines	126	£4 2 6	Wheal Comfort	95	£1 8 0
ditto	106	3 0 0	ditto	85	1 16 0
ditto	100	4 4 6	ditto	69	2 8 0
ditto	87	1 16 0	ditto	51	1 8 0
ditto	86	5 12 6	South Caradon	88	9 0 6
ditto	72	6 18 0	ditto	62	6 4 6
ditto	60	4 12 6	ditto	34	8 1 0
ditto	56	2 18 0	ditto	30	3 17 6
ditto	54	4 6 6	South Tolguis	78	4 7 6
ditto	51	6 18 0	ditto	53	9 9 0
ditto	50	3 18 0	ditto	32	4 6 6
ditto	45	6 2 0	ditto	30	14 18 0
ditto	35	4 4 6	Treleigh Consols.	44	2 18 0
ditto	10	1 0 0	ditto	32	7 10 0
Tresavean	95	2 12 0	ditto	12	1 18 0
ditto	81	3 4 0	South Crinnis	64	2 18 6
ditto	80	2 8 0	ditto	13	4 16 6
ditto	78	2 12 0	Boscandine	57	12 1 0
ditto	35	2 15 0	West Wheal Jewel	45	3 0 6
Bar Consols	78	6 1 6	Wh. Mary, Redruth	30	4 4 6
ditto	76	6 7 6	ditto	13	1 11 6
ditto	70	5 15 6	Richards's Ore	15	2 4 0
ditto	51	5 6 6	Polgooth	8	7 6 6

Vauxhall—Licensed Victualler's Fancy
FAIRS.—On MONDAY, and TUESDAY, in aid of the Funds of the Licensed Victualler's Asylum, upon which occasions, in addition to the Inimitable Entertainments of this Aristocratic Resort, there will be a BALLOON ASCENT on each day, by Mr. H. BELL, on Monday, in a NEW BALLOON, constructed for Scientific Purposes, being the First Ascent, and on Tuesday, in the NEW LOCOMOTIVE AERIAL MACHINE. First Appearance of Madame Antonio, the celebrated Rope Acrobatic, and the eminent Tyrolean Vocalist, M. Von Gulpin, in Native Costume, who has had the honour of appearing twice before Her Majesty at Buckingham Palace. The Performances, which will be considerably increased, will include the Four Greatest Equestrians in the World, Mad. Lejars, Madlle. Pauline Cuzent, Madlle. Palmira Annato, and Hernandez.—Foucault's Marvellous Fire and Water Sports.—Unequaled Fireworks by Darby.—Gorgeous Illuminations.—Arban's Splendid Band for Concert and Ball.—Popular Vocalists.—Stupendous Picture, the Temple of Concord.—The Ball Room will be open at an early hour, and Two Extra Bands engaged.—Doors open at Five. Admission, 2s. 6d.

Vauxhall—Nocturnal Flower Show, on TUESDAY, JULY 6th.—A Flower Show will take place in the Royal Gardens, on a scale of illuminated Magnificence never yet attempted. The whole of the FLORAL DISPLAY will be Brilliantly Lighted, presenting a coup d'oeil as magnificent as it will be novel. Admission, 2s. 6d.—The usual Entertainments of the evening will take place in their ordinary routine.—On WEDNESDAY, JULY 9th, a GRAND BAL COSTUME and MASQUERADE, in honour of Her Majesty's visit to the City, upon the same extensive scale of splendour which characterised the last, and which attracted upwards of 8000 persons. Admission, Gentlemen's Tickets, 10s., Ladies' ditto, 5s. Doors open at Ten. Mr. J. Nathan, Castle-street, Leicester-square, is appointed Costumier.

NOTICES TO CORRESPONDENTS.

"C. F." (Cornhill).—The Alten Mines are situated in Norwegian Finmark (*vulgo*, Lapland). The formation of the rocks is primary, there are no indications of volcanic structure. The Geysers, or boiling springs, exist in Iceland; they are jets of water, not fire, as some ignorantly suppose.

ELECTRO-MAGNETISM AS A MOTIVE-POWER.—"W. S."—We have received the communications forwarded, but there is nothing new in the article in question—little, indeed, but what has already appeared in the *Mining Journal*. It is likely Professor Henry, of the Smithsonian Institution, United States, was the first who constructed and publicly described a machine, the motive-power of which was obtained from the magnetization of soft iron; its motion was reciprocating, and was described in *Silliman's Journal* in the year 1831. In 1833, Dr. Schultze, of Zurich, exhibited a machine propelled by electro-magnetism; also Dr. Ritchie, of London. In 1834, Professor Jacob, of St. Petersburg, described in Paris a method of propelling by similar power. Then followed Davenport, of Vermont, and Davidson, of Edinburgh, who had a turning lathe and small locomotive in operation by the same power, which was exhibited in 1843 at the Egyptian Hall. Professor Page, of Washington, comes next, and undoubtedly his late experiment with an electro-magnetic locomotive at that city is the greatest effort yet made. But great expense, producing little power, has beaten all; and unless some means of producing currents of the motive force totally different to all existing arrangements are discovered, we see no reason to look for the supercession of the employment of steam by it. One grain of zinc consumed in a galvanic battery of the most powerful, yet economic description, will lift 60 lbs. 1 ft. high per minute, while one grain of coal consumed in the furnace of a Cornish boiler lifts 143 lbs. 1 ft. high per minute. The electric scientific world are now turning much attention to magneto-electricity, and there appears good reason to anticipate some great discovery in this department of the science. Already have Messrs. Elkington (as stated in the *Mining Journal* of the 14th inst.) set aside all their unwieldy, expensive, and inconstant batteries, and are now employing an induced current, with immense success and saving, from permanent magnets, in gilding and plating processes. Some information also appears in another column.

"J. T." (Machermore).—We have received a communication from the President of the College of Arts and Mines at the above place, respecting the advertisement for a manager for lead mines in North Wales, in our last Journal. The writer states his conviction that no one individual, or "model agent," will be found among the usual characters of managers who can pass the ordeal there laid down; he says he has been acquainted with the principal mine agents in Cornwall and Devon for the last 20 years, and can say, without fear of contradiction, that he has never known one equal to the standard there set up. He is acquainted with two managers who possess a practical knowledge of mining, surveying, accounts, and mechanics, and another who adds a practical knowledge of assaying; but he thinks, even if their talent was sufficient, they would be above the market price.

"G. B." (Leadenhall-street).—The plan for railway communication in Bengal, as proposed by Mr. Andrew, and now sanctioned by the Indian Railway Commissioners, is from Calcutta to Rajmahal, a distance of 180 miles, and thence by steam navigation on the Ganges to Mirzapore, instead of 450 miles of line carried out at once. Intermediate portions might be completed by degrees, where the navigation was the most obstructed, as between Benares and Allahabad, and from the latter place to Cawnpore. As traffic increased, the whole might in time be finished.

MINING IN ST. AGNES.—"Verax" complains of a system of scheming to which he has been exposed, and by which, after the expenditure of much time and money, he has been completely victimized. He states that, being applied to some months since to assist in the formation of a company for trying a new piece of ground to the east of Great Wheel Kitty, he interested himself in establishing a company for working the ground in a legitimate manner, relying on the sincerity and honour of the parties, and it was decided to take up the lease. Being at a respectable inn somewhat west of Truro, he got into conversation with a person respecting the sett, informing him he could have an interest in it if he liked, at which he seemed pleased. Thus matters stood, and "Verax" saw no more of this would-be mine agent until his return from London, where he had been among some mining parties to endeavour to get up a company to work this very sett, and on seeing one of the owners he was surprised to hear this new upstart "was the man they wanted, for he had got a good party for them." "Verax," of course, feels excessively hurt at such treatment, after surveying the parish for the publication of a mineralogical map, showing the various sets, lodes, &c. It is satisfactory, however, to find that he had secured the patronage of the leading and honourable mine agents and other gentlemen of the place for this purpose; but he considers the treatment he has received so base that he leaves the district in disgust.

"W. W." (Lestwithiel).—The matter has not escaped us. We are fully acquainted with all the facts, but we still hope that better sense will prevail, in preventing the particulars coming before the public.

"Cato's" remarks on the character of mining reports in general, and on the correspondence on mining matters which weekly appear in our columns, may, for ought we know to the contrary, be very sensible, and much to the purpose, but unfortunately we can only read about one half his lucubration, and that half to us is perfectly unintelligible. If our correspondent wishes us to insert any of his remarks, and we are always ready to adopt matter worthy of publication, he must address us in plain English, and convey such diction in a hand-writing which we can decipher.

SEARS'S PATENT NEEDLE GUN.—Sir: In your notice of the experiments with fire arms which took place at Lord Ranelagh's, Mulgrave House, Fulham, I perceive that your reporter has made a trifling error. He states that my gun, after 15 or 20 rounds, became unmanageable. I, therefore, beg to say that 80 rounds were fired from one gun, and that the first seven shots were fired in the short space of one minute. The gun, after the 80th shot, was in every respect firm, manageable, and clean as after the first shot, as witnessed by all the gentlemen present. Your correction of the error will oblige.—M. N. SEARS: Burton Crescent, June 26.

The offer of "An Adventurer" (Truro) is accepted, with thanks. We are at all times anxious for information.

"C. P. C."—Of cobalt there are eight species—viz., in white ore, grey, silver white, black, brown, yellow, and red, as well as cobalt pyrites. It was the first named species that was raised in some quantities about 30 years ago at Wheal Sparrow, Redruth, and Dolcoath Mine, realising then a high price; the latter mine and Herland yielded also grey; red has also been found at Dolcoath.

Mr. J. Y. Watson's "Compendium of British Mining" will be resumed next week—the mines being the North Pool and West Tolgus.

Mr. Ennor's letter on the Mining Exchange; the reply of "A Practical Miner" to Mr. Ennor on Tin Mines; "A Well-Wisher" on Mining in Ireland; "An Engineer" on Mine Machinery; &c., are unavoidably postponed.

The Cost-Book System.

Having repeated applications for particulars respecting the Cost-book System, we have reprinted, as a pamphlet, the paper descriptive of its principles and practice, which appeared in the *Mining Journal*. Copies can be procured through any bookseller or newsman, or at our office, price 6d.

* We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

* It is particularly requested that all communications may be addressed—
 To the Editor,
 Mining Journal Office,
 26, Fleet-street, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JUNE 28, 1851.

The *MINING JOURNAL* is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

One of the most extraordinary cases of preservation from loss of life by being buried alive in a coal-pit, which we have this day to record, among other accidents in another column, took place yesterday week, at the North Side Colliery, Bedminster, near Bristol, and is suggestive of the immense importance which attaches to a colliery viewer in a constant watchfulness of every part of the workings, not only for ventilation, but for support of roofs, and particularly the strength and security of the shaft timbering. In the case under notice, a load of coal, on ascending the shaft, struck one of the timbers at 90 fms. from surface and dislodged it from its place; a quantity of earth work followed, falling on the lower timbers, and thus filling up the opening for 30 fms. below, and not only causing a destruction of much property, but immolating alive 40 of our fellow-creatures. Now, without knowing any more than this mere fact, it would strike us that the timbering of this shaft must have been anything but secure; the

striking of the bucket against the sides of the shaft, from those oscillations which cannot be avoided where guide rods are not provided, is a thing of such every-day occurrence that all known means of security should be resorted to to enable such shocks to be withstood. It is true that, among the various colliery accidents which it is our painful duty so continually to record, such an occurrence as the present one is rare, but should, nevertheless, be a serious warning and a useful lesson to all persons having the management of colliery and mining property. Mr. GOULDSTONE, the principal proprietor of the colliery, was on the spot immediately on the occurrence of the accident being known; no expense or exertion was spared towards the extrication of the men inhaled, and by 4 o'clock in the afternoon some kind of communication was made with the two men in the upper vein. It now became necessary that some one should descend to convey a rope to them; but most of the colliers present naturally shrank from the danger which it was evident attended the exploit. At length, however, a brave fellow, named NORTH, volunteered for the service; a few minutes after his descent the bottom signal was heard, the windlass was slowly and cautiously set to work, and in a short time BRAINE and PHILLIPS, with their brave deliverer NORTH, were seen to emerge as it were from the grave, when the air resounded with plaudits on the conduct of the latter; the two men were much exhausted from having been so many hours in a deleterious atmosphere, but on stimulants being applied they soon recovered. Having now gained access to the upper vein, the best means were canvassed for reaching the lower seam, 15 fms. deeper; the air at the tip, descending to the lower vein, was so foul that candles were useless, and the only means left were for a windlass to be taken down, fixed in the dark, and for one man to be let down to the lower seam and call or grope for the missing men. The intrepid NORTH again volunteered for this latter service, and five others, T. and W. SMITH, S. PAGE, W. COOPER, and R. PIKE, offered to descend and work the windlass. They accordingly descended with all necessary apparatus, but found the air so bad, and so much danger from the still falling rubbish, that they returned, stating it was impossible to proceed until further repairs took place. A canvas air shaft was constructed, and by means of several hundred yards of hose from the Bristol Insurance Office, a stream of pure atmosphere was forced into the lower workings, while the necessary repairs were done to the shaft. Several hours were thus employed. By 11 o'clock on Saturday morning everything was announced ready; NORTH and his coadjutors again descended, and by 7 o'clock on Saturday evening the whole 38 men, whom in the morning no one ever expected again to see alive, were landed safe, to the astonishment and joy of their relatives and the spectators. During the operations several acts of real heroism might be noticed: when NORTH and his companions, who were thoroughly exhausted, had brought up 20 men, and after it was considered useless and dangerous to proceed any further, FRANCIS SMITH, one of them, and who had suffered less than the others, determined to persevere, and with the assistance of men named DAVIES, BOLT, WATSON, BATSON, JOY, MARSTON, and PAGE, succeeded in safely restoring the 18 remaining men: but a few hours more, and the whole must have perished. Such conduct as this, which, indeed, is a marked feature in the characteristics of our colliery and mining population, is above all praise, and we trust will not be allowed to pass without some substantial reward, in addition to that self-congratulation which must rest with them throughout life, in having been instrumental in saving the lives of such a number of their fellow-creatures.

A more leisurely investigation of the mischief caused by the accident has since been made, and it is satisfactorily ascertained that the damage to the shaft is not so great in extent as was at first imagined, and we understand there is every probability of the works being resumed within the ensuing fortnight. We have received a communication from our intelligent correspondent at Bristol ("Carbon"), in which he accounts for the accident by the continuous rebounding of the corve from side to side having loosened the strata behind the deal facings, during four years' working, until they received a greater pressure than usual, and a heavy blow would then loosen a frame piece, and the destruction was complete.

The bill which has been for a considerable time under preparation for the definition and amendment of the mineral laws of Derbyshire has, at length, been printed, of which a copy is now before us. It is intitled "An Act to define and amend the mineral customs of certain parts of the hundred of High Peak, in the county of Derby, part of the possessions of her MAJESTY's Duchy of Lancaster; to make provision for the better administration of justice in the Barmote Courts therein, and to improve the practice and proceedings of the said courts." In the recitation of the preamble, it is shown that the QUEEN is possessed of the hundred of High Peak, and is entitled to the mineral duties in certain parts of such hundred; that there is a part called the King's Field, or Fee, consisting of seven small liberties or districts—Castleton, Bradwell, Hucklow, Winstor, Moneyash, Taddington, and Upper Haddon. That all subjects of the realm have from time immemorial had or claimed the right to search for minerals, subject to certain ancient laws and customs, and on paying certain duties to the Crown and its lessees; that for the regulation of such mines, and other matters relating thereto, there have existed courts called Barmote Courts; that such mineral laws and customs are uncertain and undefined, and in many respects inapplicable to present mining operations; that doubts have arisen whether the jurisdiction of the courts extend over such part of the Peak to which her MAJESTY is entitled to mineral duties as are not included in the King's Field; that it is desirable that the said mineral laws should be revised, altered, and abandoned, and the jurisdiction of the Barmote Courts more definitively settled. The Duke of DEVONSHIRE is stated to be the lessee of the duties under the Great Seal; and the principal provisions of the bill are the appointment of a steward, who must be a barrister of five years, a special pleader of ten, or an attorney of seven years' standing; his duties are defined, and the practice of issuing precepts, subpoenas, warrants, &c. Two great Barmote Courts are to be held in April and Oct.; and small courts as occasion may require. The business of the great courts is to be swearing in of the grand jury, and such other matters as is in the bill mentioned; and of the small courts to try actions of title, trespass, debt, &c. A barmaster is to be appointed during pleasure under seal of the Duchy; and he may nominate seven deputies. The courts are to be courts of record, and the jurisdiction to extend over the King's Field, and all parts of the hundred of High Peak where the QUEEN is entitled to mineral duties. The grand jury to consist of 12 men, with a knowledge of mining, to be chosen by the barmaster—Castleton, two; Bradwell, two; Hucklow, one; Winstor, two; Moneyash, two; Taddington, one; Upper Haddon, one; and one from such parts not within the liberties. Six are to be determined by lot, to be discharged at the second great Barmote Court, after passing of the Act; and at every subsequent court the six longest in office to be discharged. None to serve oftener than once in three years. In case of death, barmaster to select another. There are various other provisions as to viewing of mines, pleadings, granting new trials, executions against mineral property, penalties, with proceedings relative to their recovery, tables of fees, &c.

It is rather difficult to say upon what precise grounds it is intended to rest the motion for an inquiry into the particular methods which have been adopted for the suppression of the piratical activity of the Dyacks of Borneo. There are three alternative propositions which may be submitted to the House of Commons, or, by possibility, the mover may take the whole three together, and putting them into his cauldron, and adding the heated incantations which he is able to utter, turn out from his furnace a very stringent and drastic preparation. He may allege, first, that in this case there was no actual piracy—that the Dyacks, as aborigines of the Malayan seas, only acted with that primitive independence, with that prescriptive sovereignty in their own latitudes, to which they were naturally entitled. Or, secondly, he may affirm that we have no right to turn schoolmasters on the high seas, and force our notions of individual and separate rights upon these chartered freebooters. Or, thirdly, that if there had been actual piracy, and that according to all law, whether local or international, we were justified in taking measures to suppress it, we have proceeded too far, and administered an unnecessary sum of punishment on the evil doers. It is anything but improbable that one or the other, or probably the whole, of these points may be pressed on the attention of the Legislature, and a vain attempt made to obtain an affirmative vote on these propositions separately or together; and we make no doubt that such a motion, limping up and down the House upon these crutches, will receive a full and triumphant answer, and then a summary rejection.

The first of these assumed facts may be very promptly disposed of on the recorded testimony of the numerous Dutch officers who have from time to time acted as governors of the adjacent islands, and spent a long period as residents in those seas; or on that of our naval commanders, who have often, and under great provocation, been sent to punish some outrage more aggravated, and to disperse some array of force more formidable than ordinarily accompanied the savage expeditions of the Dyacks. These all know and declare emphatically the robber tendencies and piratical life of this sea-going offshoot of the Malayan race. But, then, it may be said in extenuation, that these statements are ever so true, it is a piece of mere Quixotism to interfere by arms with what is so distant from us, so limited in its extent, and so inevitably and inextricably a part of the history of the race itself. We earnestly hope that, by making a great example on a great occasion, and by the substitution gradually of a remunerative commerce for the temporary fruits of rapine, we may win even the Dyacks to a less predatory and a more useful course of activity than that which has been hitherto set against their name in every authentic history. But if they will not be softened by the expostulations of reason, nor subdued by the force of a declared law which ought to terrify them, then there remains to us only a third alternative—of clearing them out of those seas which they have too long been permitted to infest. For our own parts—and we think we may take upon us to answer for a large portion, if not for the majority, of the out-of-door public—we think that it is wiser and safer to leave the specific measures by which a permanent anarchy or a transient outbreak is to be suppressed to the Government resident on the spot, instructed better than we in England ever can be, by its local knowledge of the necessary and expedient elements of the case.

We should leave also—and we believe the public in general is disposed to leave—the particular remedy to the judgment of the QUEEN's representative. Having carefully chosen our officer, and in this instance who does not know that he has been chosen carefully and well, we should commit to his judgment and conscience the free choice of measures for the right discharge of his duties; nor is it fitting that a man of honour and character should be called from the ends of the earth, even at the instance of Mr. HUME, to assist in the disproof of a gratuitous imputation, or in discovering an empty mare's nest.

A case of considerable importance to inventors and patentees has been argued in the Court of Common Pleas, and which furnishes another among the many instances on record on what slight pretences and mean evasions a man's patent right may be attempted to be wrested from him, in too many instances with success. The plaintiff was Mr. JAMES LYNE HANCOCK, the well-known manufacturer of India-rubber, who, in connection with Messrs. MACKINTOSH, of Manchester, have taken out so many patents for waterproof and other fabrics, and particularly one for what is termed "vulcanising" caoutchouc, or treating it with sulphur; the defendants were Messrs. SOMERVILLE and Co., dealers in goloshes, and other waterproof articles, of Noble-street, Cheap-side; and the action was for the infringement of a patent for improvements in the manufacture of India-rubber in combination with other substances, for rendering cloth and other fabrics waterproof. Sir F. THESIGER, for the plaintiff, said he had for some years, in connection with Messrs. MACKINTOSH, been engaged in experimenting on the application of caoutchouc to various purposes, particularly to rendering garments waterproof; and for several years they could not overcome certain defects, principally a clamminess, and also a liability to be affected by heat or oily substances. At length Mr. HANCOCK discovered that, by first preparing sheets of caoutchouc with a silicate of magnesia, and then immersing them in melted sulphur at about 250° Fahr., allowing them to remain until the temperature rose to 270° or 285°, every object was obtained which could be desired. Previous to this a Mr. MOULTON came to England as agent to Mr. GOODYEAR, of New York, and wished to treat with Messrs. MACKINTOSH for the sale of articles patented in America, but not in England, which were free from all clamminess, or other disadvantages. The negotiations were, however, broken off, and on the 21st Nov., 1843, Mr. HANCOCK took out a patent for his discovery with respect to treating caoutchouc with sulphur as the principal feature. The specification stated—

What I claim as my invention and discovery is, first, the combination of caoutchouc with silicate of magnesia, whereby manufactured caoutchouc is rendered free from the clammy and adhesive character which it usually possesses; secondly, I claim the mode herein described of combining asphalt with caoutchouc; and, thirdly, I claim the mode of caoutchouc (either alone or in combination with silicate of magnesia or other substances) with sulphur, when acted on by heat, and thus changing the character of caoutchouc, as herein described.

This preparation of Mr. HANCOCK's soon came into general use under the name of vulcanised India-rubber, and shortly after parties imported largely into this country goods from America of a similar manufacture, which were publicly sold. On the 5th October, 1848, a letter was sent to defendants, giving them notice that if they continued the sale of such articles proceedings would be commenced against them. This was disregarded, and a person was sent to defendant's premises, who purchased articles to the amount of 17 3s. 6d., which were analysed, and found to be prepared with sulphur and oxide of lead.

The ATTORNEY-GENERAL supported the case for the defendants, on the ground that the oxide of lead rendered the fabric more compact and more susceptible of polish, and that thus it became a totally different article; he did not, however, attempt to introduce any remarks on the effect of the sulphur. Mr. JUSTICE WILLIAMS, in summing up, left three points for the consideration of the jury—First, whether the fact of the defendants having sold the article manufactured by Mr. GOODYEAR was an infringement on plaintiff's patent right? Secondly, was the plaintiff's invention a novelty when he obtained his patent? The third was whether plaintiff had completed his invention when he enrolled his specification, for if he had not, Mr. GOODYEAR's patent taken out in England a month after he had would have priority? The jury, after an absence of a quarter of an hour, found—First, there was an infringement of the patent. Secondly, that Mr. HANCOCK's was a new invention. Thirdly, that the plaintiff had completed his invention before the enrolment of the specification, which, of course, amounted to an entire verdict for the plaintiff. His lordship directed nominal damages for 40s., the plaintiff's object being only to prevent further infringement, and secure his right.

In the *Journal* of the 14th inst., we published an article descriptive of Messrs. ELKINGTON and MASON's process of electro-plating, and their improved mode of producing the electric fluid by means of a magneto-electric machine, which has superseded the galvanic battery, and at the same time, in a separate article, called the attention of our readers to this important fact, because it removes the principal objection which has been made against the application of electro-magnetism as a motive-power. From observations which have since been made on this subject, it appears that many suppose that an electro-magnetic engine, worked by a dry battery, would produce something like perpetual motion, because the motion of the one machine would apparently be produced by the other, without consumption of any material. If a steel magnet could be made permanently magnetic for any length of time, this supposition would be right; but it can only be considered permanent for a certain time, and requires, therefore, to be re-charged when exhausted. This process, which was formerly made by means of steel magnets, is now effected by powerful electro-magnets being charged by galvanic batteries, when the permanent or steel magnets require re-charging. From the experience gained, and in the present state of this science, we suppose that four times every year will be sufficient; but if it even may be found expedient to re-charge the steel magnets every second month, in order to restore their power of attraction, the difference between working a galvanic battery every day as hitherto required for the same purpose, and merely to apply it some few times every year for re-charging the dry battery, is so very great, not alone as to expense, but also as to trouble and constancy of action, which has been found to be such an important point, that we feel sure those of our readers who understand the value of this great and forward step in electric science will rejoice with us in seeing the possibility of applying this mysterious fluid for many purposes, which, by the expense, trouble, and want of constancy in the galvanic battery, has been almost impracticable. That intensity might be produced by magneto-electric machines has long been known; but the great question was to obtain quantity of electricity; and that is now a fact which is indisputable.

Besides the observations which we have thus endeavoured to refute, we will try to meet another question, which has been called forth by the application of magneto-electric machines for working electro-magnetic engines—namely: that an extra power will be required to start the latter.

We willingly admit the necessity of the application of such a power; but this power is so trifling that a man easily will be able, at the least for a short time, to work or revolve an armature of immense size, until the electro-magnetic engine is put in motion; and the engineer wants, therefore, only to revolve the armature of a magneto-electric machine, instead of moving the levers of a steam-engine, for the purpose of starting it; and when put in motion, the motion of the armatures will then require much less power than the pumps of a steam-engine, which best will be seen from the facility with which the armatures in Mr. HENLEY's magneto-electric machines are revolved.

We expressed, in a previous article, our satisfaction at the prospect of seeing electricity made more useful for practical purposes, since the galvanic battery has become superseded by Messrs. HENLEY's, and ELKINGTON and MASON's magneto-electric arrangements, by which the electric fluid is produced in an inexpensive manner, which allows its application in many cases where the costliness and uncertainty by the galvanic battery made it almost impracticable. We have since learned that several railway companies intend to apply Mr. HENLEY's telegraph for giving signals in tunnels, to which it is so well applicable, and have applied to him for this purpose. When we consider what awful accidents have lately occurred on railways, especially in tunnels, and merely from want of signals, it must certainly be very satisfactory to the travelling public to learn that measures are contemplated which must, in a great measure, prevent such calamities in future.

The last sale for the current quarter, terminating on Monday next, of foreign and other copper ores by ticketing at Swansea, having taken place on Tuesday last, we proceed to give our usual quarterly summary of the same, which will be followed up in our next Journal by returns of the sales by ticketing in Cornwall, and those of Lead and Tin, to such extent as we have been able to obtain them. The total amount sold at Swansea has been 12,515 tons, realising 147,391. 2s. 6d., and as compared with the previous quarter the result is as follows:—

	Tons.	Amount.	Average Price.
Quarter ended June 30, 1851	12,515	£147,391 2 6	£11 15 6
March 31, 1851	8,898	109,946 12 6	12 7 1
Increase	3617	37,444 10 0	Dec. -0 11 7

Being an increase of 3617 tons, and 37,444. 10s. in amount, but a decrease on the average price of 11s. 7d. per ton. With the corresponding quarter of 1850, the comparison stands thus:—

	Tons.	Amount.	Average Price.
Quarter ended June 30, 1851	12,515	£147,391 2 6	£11 15 6
June 30, 1850	11,290	129,104 16 6	11 8 8
Increase	1,225	£18,286 6 0	£0 6 10

Being an increase of 1225 tons—18,286. 6s. in money, and 6s. 10d. per ton in price.

The above amount of ores were made up as follows:—

	Tons.	Amount.	Average Price.
Foreign	7922	£116,980 17 0	£14 15 4
Irish, &c.	4378	29,611 16 0	6 15 3
Sundry slags, &c.	215	798 9 6	3 13 8
Total	Tons 12,515	£147,391 2 6	£11 15 6

The amount of foreign ores were made up as follows:—

	Tons.	Amount.	Average Price.
Cobre	5497	£82,170 13 0	£14 19 0
Cuba	1010	13,370 11 0	13 4 9
South Australia	498	12,231 10 0	24 14 2
Santiago	336	3,976 3 0	11 8 4
New Zealand	265	2,876 9 6	10 17 0
Spanish	278	1,754 15 6	6 7 9
Chili	21	600 12 0	28 11 5
Total	Tons 7922	£116,980 17 0	£14 15 4

And the Irish, &c., were as follows:—

	Tons.	Amount.	Average Price.
Berehaven	2488	£18,513 17 0	£7 8 9
Knockmahon	1731	10,215 4 6	5 18 0
Aberdorey	65	375 2 6	5 15 6
Lackamore	42	213 3 0	5 1 0
Daren	23	129 16 0	5 12 3
Cronebane	3	76 11 6	38 5 9
Tigrony	3	76 11 6	38 5 9
Manx	23	12 10 0	0 10 10
Total	Tons 4378	£29,611 16 0	£6 15 3

It is an exceedingly unenviable position for a mechanical engineer to be placed in, when applied to by some novice, with generally more money than wit, to construct him a monstrous and unmechanical piece of machinery, which, according to the brainless ideas of its would-be inventor, is to effect a complete revolution in some peculiar art or principle, while the party applied to is well satisfied that it cannot work at all. If he refuses, on grounds of honest principle, he is set down as unequal to his profession; and if he undertakes it, he does so with a sort of consciousness he is not doing justice. We have practically known engineers placed in this dilemma; and when undertaken the only way is to bind themselves to make the model according to drawing, but not to answer for the working. A case, which has given rise to these observations, was tried in the Court of Queen's Bench, on Tuesday last, in which Mr. CLARK, the engineer of Temple-street, Whitefriars, was the plaintiff, and one BRIDE, from Trinidad, defendant, who, having some scheme in his head for employing air instead of steam as a motive-power, came to England, and applied to plaintiff to construct him a model for the Exhibition. The action was brought to recover 321l., the balance of the account. The model was made by plaintiff under the superintendence of the defendant, and in the course of its construction it underwent numerous alterations; but when it was at last completed and a trial made, it was found that it only went for five minutes, when it came to a dead stop. On being examined a crack was discovered, and this being repaired, and some other alterations made, it was again submitted to trial, but it would not go at all. Under these circumstances, the plaintiff insisted upon further advances of money being made, and not finding it forthcoming, he brought this action. The defence was that the machine was badly constructed, while plaintiff insisted it was throughout altered, added to, and diminished, under defendant's particular directions; but the latter was so elated by what he called his "discovery," that in a prospectus which he issued he appended some poetry, thanking God for it. At the suggestion of one counsel, with the concurrence of the other, and with the advice of Lord CAMPBELL, the case was referred to arbitration. From the very nature of the proposed "discovery," a mode of employing air to supersede steam as a motive-power, and the enthusiasm of the inventor by appealing to a higher power, we think there needs no "ghost" to tell us where the fault or the folly lies. We shall await the decision.

We have so often pointed out the favourable field for mining in our sister country, Ireland, that words are wanting when we newly have to touch upon the theme, as on the present occasion. In another column of our paper this day will be found particulars of the first general meeting of the shareholders in the KENMARE AND WEST OF IRELAND COPPER AND SILVER-LEAD MINING COMPANY. The mines are situated in the county of Kerry, and have been inspected by Capt. W. PAUL, sent by Messrs. JOHN TAYLOR and SONS, and more recently by Capt. W. HOSKIN, on his return from Cobres. The reports from both have undergone our inspection, and we are bound to admit them to be of the highest favourable character; the large specimens of grey and other copper ore open for the inspection of the meeting also testify as to the rich character and quality of the metal; and as the shares, 20,000, at 1l. each, have all been distributed, and are held, with the exception of 390 (reserved), by parties of the highest respectability, there can be no reason to doubt but that the mines will now be wrought effectually. In addition to other local advantages the distance to the shipping port is only three miles, over a good road—the ore can, therefore, be put on board at an expense of about 2s. 6d. per ton. The deepest level is only 36 fms., the engine-shaft being

nearly down to another level. Croker's shaft is down to the 36, and sunk about 5 fms. below, above which level, and principally from the 24 fm. level, 10,000l. worth of ore was sold at an average of 12l. per ton. The distance between the lodes are from the engine-shaft, sunk perpendicularly near the north lode, to Forge lode about 100 fms.; from that to the lead lode about 22 fms.; and thence to the south lode, at Manby's shaft, about 200 fathoms. The lode is nearly 1½ ft. wide, underlying south 2 ft. in a fathom in the bottom level, which is more than it does in those above; and the lode improves as it deepens. Forge lode has been wrought to the depth of 24 fathoms from the surface, and the workings upon it extended 100 fathoms in length. About 22 degrees south is a lead lode, which can be intersected by driving a cross-cut from this level—the ground being easy—at a moderate expense. Further south is a large copper lode, underlying 2½ ft. in a fathom. The strata at present is limestone; but the clay-slate is bordering on the south, and its declination is north 45° in a fathom. A perpendicular shaft is here recommended, to intersect the lode at 30 fathoms deep. There is ample water-power for working this effectually. At the Pump shaft, one of West's best 36-in. cylinder steam-engines is erected, and all the necessary pitwork upon the spot, to work the mine to the deeper levels. The water is already in fork. Labourers are plentiful, wages cheap, and a more peaceable population is not to be found in any part of the kingdom. All this is testified by Capt. W. THOMAS, the superintendent, who has known the locality as a resident for upwards of 10 years. Coals are delivered into the mine at 20s. per ton; 5000l. is the sum paid for the property, including engine, machinery, and effects (valued beyond 3000l. by Capt. THOMAS), and subject to a royalty of 1-15th—the company to have the option at any time within 12 months to purchase at a fixed fine.

The reports being highly satisfactory, and the recent visit of the directors confirming the estimate made of this property becoming a vast and valuable field for mining operations, they already entertain the idea of effecting the purchase named; and as they have thus commenced in the true spirit of mining—that of perseverance, backed with ample capital—we sincerely wish them deserved success.

Sir WILLIAM SOMERVILLE's bill, to provide greater facilities for owners or lessees of mines in Ireland, to prosecute their works in adjoining lands, has just been printed, a copy of which is before us. It goes but one step, however, in the removal of those obstacles for the extraction of the mineral wealth beneath the surface for which Ireland, in juxtaposition with every other country in Europe, is so remarkable. In our last Number we noticed that the principal facility to be given would be power to the lessee or owner of a mine in Ireland, on giving certain notice and security to the occupier of the land, to enter on and occupy such portion as may be required. Such is literally the fact, and the quantity of land thus required is limited to five acres—an enormous provision for the extension of mining operations of any amount. It provides that if the owner of any mines, situate on other lands (we presume it means when the lodes run through lands adjoining any set), shall be desirous of entering on such lands, it shall be lawful to serve upon the occupying tenant a written notice accordingly; and after eight days, having obtained a certificate from a competent engineer or county surveyor, stating the particulars and quantities of land, and an estimate of the value thereof, he may lodge the amount in the hands of the Clerk of the Peace, or his deputy, on payment of a fee of 2s., when he will be at liberty to enter upon and use such land without let or hindrance.

The tenant, or sub-lessee, may recover his damages out of such deposit on giving eight days' notice by a traverse for damages at the assizes, in like manner, as near as may be, as traverses for damages in cases of grand jury presentments have been heretofore tried. The Act does not extend to mines demised with lands, nor to ground on which buildings are erected, gardens or yards. Now, if Sir WILLIAM SOMERVILLE had felt anxious to remove some of the incubi with which the industry of Ireland is prostrated, by legislating for the removal of many obstructions in, and giving greater facilities for extending mining operations, a wide field was before him; and he might have introduced a bill for rendering mineral wealth as accessible as in Cornwall—breaking down some of the degrading legal barriers to improvement which have been Ireland's curse for centuries; opened out a vast field of employment for the population; rendered his name famous as the ameliorator of the condition of his countrymen, and saved the time of Parliament in legislating on such an abortion as the bill now before us, at which, we have no doubt, the "Irish brigade" and other Members will have some pretended reasons to cavil. The present bill, if passed, may be of some partial good in isolated cases; but we should have rejoiced to have seen a bolder measure, based on broader principles, and one which would have rendered mining operations in Ireland popular and prosperous—neither of which can they be said to be at present.

Another case of attempting to recover wages a second time was brought forward at the Aberdare Petty Sessions, on Thursday last, before Messrs. H. A. BRUCE, G. R. MORGAN, and W. THOMAS. Three men preferred a charge against JOHN SMITH, one of the agents of the Aberdare Iron Company, for refusing to pay wages amounting to about 30l. Mr. FRANK JAMES appeared on the part of the complainants, and Mr. E. B. EDWARDS for the defendant. Upon the case being called on, Mr. EDWARDS said that he could not conceive that the magistrates were aware that this was part of the case withdrawn by Mr. JAMES on a former occasion, and that it now certainly presented itself in the shape of a persecution, and an entire breach of good faith. That there was an amount of wages due to the men of 6l., which the company had offered them upon signing a simple receipt. Mr. JAMES remarked, that the company had refused an account of the work, which Mr. EDWARDS denied, and the agents declared that the men had not been refused their tickets or wages. Mr. BRUCE then remarked, that he could not believe the Aberdare Iron Company's agents, who he and all knew to be highly-respectable men; and that it was too probable that the three workmen having tasted the sweets of the victory over a powerful company, may have again been induced to prefer these complaints. Mr. JAMES said, he had written a letter to Mr. SMITH, which Mr. EDWARDS immediately produced and read, as also the reply. Mr. BRUCE said, that he was sorry that such a letter, couched in such terms, had been written, and that it had brought forth the reply it deserved. An objection was taken by Mr. EDWARDS to the party summoned, which the bench held would be fatal to the case, and intimated that this proceeding ought not to have been taken, and the four complaints were dismissed. Upon the cases being dismissed, the cashier of the Aberdare Company again tendered the balance of wages due, in the presence of the magistrates, which the men accepted, and a receipt was given for the amount.

CORNISH ENGINES IN AMERICA.—It is about two years since the first Cornish engine was put in operation at the copper mine at Perkioinen. The engine was one that had been used in Cornwall, but still perfect in all its parts. The success attending it has caused several to be constructed there; and Messrs. J. T. Sutton and Co. of Pennsylvania, are building one, having a cylinder of 50 inches diameter and 10-feet stroke, to be used near the one alluded to; and I. P. Morris and Co. are building two of the same size, for supplying the city of Buffalo with water. The great economy of these engines will, it is expected, lead to their further introduction for the purpose of elevating water, to which they are peculiarly adapted.

MONUMENT TO NEWCOMEN.—We are glad to find that the proposal for raising a monument to Newcomen, the first who applied the power of steam to useful purposes, is likely to be carried into effect, and although it appears a former attempt was made and failed, the promoters are now very sanguine of better success. It is said of Newcomen, who was an ironmonger in Dartmouth, that being one evening in a deep reverie over the fire, he was struck with the motion of the lid of the tea-kettle rising and falling, and emitting alternate puffs of steam. He immediately obtained some other description of vessel from his shop, and from his experiments that evening arose his steam-engine, the first really efficient one, which came into use in 1712, and was almost exclusively used for raising water till 1774, a period of 62 years, and which laid the foundation of all the vast power which the steam-engine at present possesses. It is but justice to the memory of those who have by their genius and perseverance benefited mankind, that posterity should show some respect to their memory, and we are glad, as a first step, to record in this instance that the vicar of Dartmouth has given permission for the erection of the monument in St. Saviour's church in that town.

PEAT GAS.—Taunton was recently "brilliantly illuminated" with gas from peat or turf, a substance abounding in the eastern part of Devonshire. The Taunton Courier states that the jet was of unusual brightness, and left no doubt of its decided claim to preference over the ordinary gaseous supply.

ON PRACTICAL MEN.—No. I.

BY DAVID MURKET, ESQ.

I was much pleased to see Mr. Hopkins's decided remarks on practical training. Every person of experience will recognise their force and correctness. There is no subject on which more confused notions are prevalent, and in which it would be more important to dismiss vague and unsatisfactory notions. In truth, the opinions on training, or what is termed education, form the grand mistake of the age; and the confusion is increased by the multitude of persons who find their interest in advocating a course of confusion. Public lecturers are for having schools established at the public expense, where they may practice their vocation; authors desire increased openings for the disposal of their manuals; the humbler classes of teachers desire employment quite as much as the popular lecturer; booksellers and journalists are ever on the look-out for extended markets to vend their wares; and the natural attempt after eminence is flattered in all, and especially in small, minds by being in a position to appear to know more than their neighbours, and gain applause for conferring the benefit of communicating that knowledge; yet, if we look narrowly into all these means of instruction, we shall see they do very little to advance valuably correct views, or impart any sound practical attainment. A sort of smattering of terms, which are entirely artificial, and rather flatter the acquirer with the belief that he has learned something than give anything really available, except to repeat them again, and are often rather prejudicial than otherwise to such hearers as have not opportunity, experience, or capacity to correct the numerous errors which are universally mixed up in the doings of those who make a trade of instruction, is a course of teaching which will never make a practical man, any more than a routine of work will make a man of science.

The truth is, that loudly as interested parties proclaim the omnipotence of education, it has no power whatever of creating real eminence. It can confer habits, and education rightly applied will seek to confer the habits which are most certain to be beneficial to the particular class to be dealt with. The extremely contracted signification in which we now use the word education—viz., a knowledge of reading, writing, and cyphering—may, if carried on by a forcing system, produce plenty of those hands, which your correspondent remarks are "of no more use than to keep accounts and make plans and sections;" and so overstock the market with these commodities, that hundreds who might have earned an honest living by the sweat of their brow fall into dishonest courses, in consequence of having been trained out of their proper calling. The fact is, that reading, writing, &c., are, *per se*, the merest trifling acquirements. It suits certain schemers and politicians to represent them as very great and difficult matters, over which a great deal of invaluable time is to be spent and wasted, but in reality, where they are needed for use, they are gained with a spontaneous facility, ranking just the next step in degree to the universal properties of articulation and muscular motion.

Those who make it their business to endeavour to divert the children of the labouring classes from honest early occupation, and to employ those precious years in which the habit of industry is to be established in scratching with a pen, or muttering over syllables, are wont to adduce in behalf of their mischievous interference the history of men who have worked hard all the day, learned to read and write at odd hours in what odd way they best could, and have struggled their own way up to great intellectual and social eminence; and, therefore, say they, what wonders shall we accomplish in society by giving to all the elements so painfully acquired by these few? This reasoning is setting the cart to draw the horse. Wheels are very useful auxiliaries where there is a power of draught, but they do not create it. Of course, to represent that the whole population can be converted into Brindleys and Faradays, or something more, is a brilliant promise, highly calculated to induce those who believe it to lend all their aid to realising the scheme. We are always wanting to do something great, in preference to adhering to the small routine of stale experience. But were such schemes only to be tested by what we know of men, and of our power over them, they would soon cease to delude. The moral qualities are far the most within our grasp. Habits of order, regularity, industry, which make good conduct, and their consequences of dexterity, facility, and decision, are the fruits of training, and are invaluable as making useful members of society, but they will not give the scope of natural superiority of talent.

Any plan, therefore, which upon a speculation of producing the latter destroys the former is a most essential and noxious blunder. The pretence often advanced that mental attainments confer moral excellence is too absurd and contrary to fact to deserve any notice. Good conduct consists in good habits; these are the fruit of time; when the proper time for acquiring them has been spent in unsettling the mind with speculative occupations, the mischief is incurable. As your able correspondent remarks, a bricklayer is a practical man for working in brick, a mason in stone, a carpenter in wood; and if we bore in mind the undoubted fact that great abilities are scarce gifts of nature, and that the mass can only be serviceable to society by good habits in a more humble occupation, less attention would have been given to those verbal theorists who, for 30 years, have overrun the country with their nostrums for the improvement of mankind. Conceit and self-interest is their stimulus, and they call it benevolence. Their notions are applauded and advocated by those who share in their objects, and they reap their harvest of assistance from those benevolents who have the money and the time to spare. I believe there is no propensity capable of doing such extensive mischief as the indulgence of the feelings in ill-judged benevolence. There has been a mania amongst these people for 30 years for coaxing, urging, taunting, and threatening, the labouring classes to send their children to what are called schools. Those years which should be spent in acquiring useful habits under their parents, sharing and assisting in their labours, have been spent, so far as respects practical morality or industry, in the grossest idleness, and as the inevitable consequence, mutual corruption.

When the time comes for them to earn their bread, they do not know how to set about it, and, what is worse, they do not like to set about it. Their hands are unsoiled, and their habits are ruined; the parental tie, which is the great fundamental principle of life, is broken on both sides; the children despise the habits of their parents, and parents are brought into the habit of neglecting their children, from the mischievous interference which has wrenched away from them their responsibility. Any person who has not been too sublime, during the past 30 years, to watch the actual effects of these practices, is only too well aware of them, and there are many more who know them, but will not confess them. They have some object still for shutting their eyes, and remaining as blind as poets. They hope to improve, and to do wrong better.

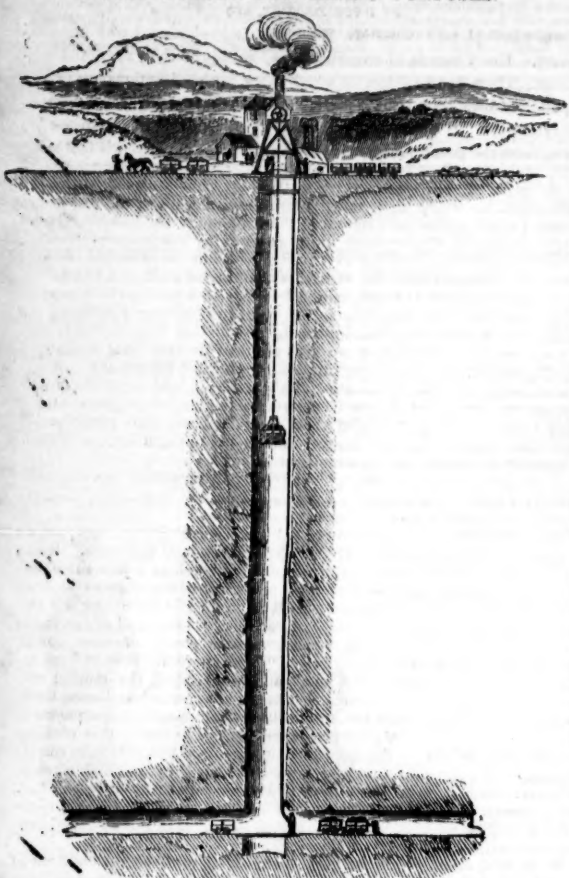
The police can tell you how many more accomplishments are found amongst thieves than formerly, if that is an advantage to the males; and as to females the best that can be said of them is, they have learned to stitch, and this provides another field for benevolent excitement in emigration societies for the distressed needlewomen, with whom their forcing system has swamped the country. It is most refreshing indeed sometimes to encounter a corner of the British dominions where folly has not yet pierced to separate parent and child, and whole families may be seen together occupied in honest industry; instead of meeting round the doors of those edifices which idle fashion has created, gangs of unhappy outcasts, staring in idleness and tawdry finery, emancipated from their parents. Schools in mining districts are much talked of at present, and much promised of their performances; I hope the promoters will take lessons from the past. The child of the agriculturist is now kept idle, in order to be taught the difference betwixt "endogenous and exogenous plants;" what is to be the corresponding profundity in the mineral kingdom?

It is of the last consequence in attempting to deal with large masses of our fellow creatures that we should ourselves really know what it is we are about, what object we propose to gain, and what means we intend to use. The mere possession of spare money and time is not a capacity to do good. Wealth or idleness does not impart the property or the effect of benevolence to any scheme by the mere intention of being so. The enjoyment of these gifts bestows no right to interfere with the domestic arrangements, however humble, of those who are without them.

[To be continued in next week's Mining Journal.]

IMPROVED BOILERS.—The new boilers on board the Hydra steam sloop are of a circular form, 9 ft. 10 in. each in diameter, and 16 ft. long, and from their perfect construction remarkably strong. There are five furnaces in each of the two boilers, two below three, and, owing to their shape, there is ample room for the engineers or stokers to pass between them when necessary. They also dispense with the steam chest used in square boilers, which will be a great advantage and bring them considerably under the water-line. They were made at the factory at Woolwich Dockyard, from a design originally submitted to the Admiralty by Messrs. J. Penn and Son, engineers, Greenwich.

GUTTA PERCHA FOR MINING PURPOSES.



Some good applications of gutta percha have been made by E. Rogers, Esq., C.E., F.G.S., at the Abercarn Fach Mine, Newport, Monmouthshire. A speaking tube, 400 feet long, and 1½ inch diameter, has been placed down the shaft; each end is furnished with a whistle, so that an instantaneous communication can be had between the miners and banksmen. In sinking a new and large shaft, Mr. Rogers has attached to the pump a very strong gutta percha tube, about 20 feet long, 1½ inch in thickness, and tapering from 8 inches down to 4 inches, as the Hogar pipe. Owing to the pliability and lightness of this tube, it admits of the sumping being readily carried on in any part of the shaft, avoiding the difficulty and loss of time hitherto experienced with heavy iron pipes. The blasting in the new shaft of this mine is effected by means of copper wires, insulated with gutta percha; the battery cells are also made of gutta percha. This newly-discovered substance promises to be of great value to miners, as, in addition to the above purposes, it has been successfully applied to pump-buckets, valves, syphons, caps, washers, and tubing for the ventilation of mines.

METALLIC INDUSTRY OF SPAIN IN THE GREAT EXHIBITION.

We have received some interesting notes on the products of Spain from Don Ramon de la Sagra, Spanish Commissioner, and one of the mixed jury. In addition to a classification of the several specimens displayed in the collection, a concise account is given of the localities, quantity of production, &c. From this we glean that, since 1832, there have been 29 furnaces for smelting of iron, constructed according to the English method, in several localities, the principal being Barcelona, Madrid, Seville, and Valencia. The iron series represents the different ores from Biscay, Asturias, Andalusia, and Leon; they are nearly all reduced by the Catalan forge. The galena and argentiferous lead is from Almeria, Asturias, Malaga, Guipuzcoa, and Catalonia. Those from Saragossa contain about 22 per cent. of lead, 8 of antimony, and 2 ounces of silver to the quintal. The copper is from Rio Tinto, Mine of the Miracle, in the Asturias, and that of Castillo de la Guardas, near Seville; this contains about 3½ per cent. of copper, and produces about 20 tons a month. Some of the blue and green carbonates are from Velez, Rubio, and Turre. The argentiferous copper ores are from Calcaena, near Saragossa, and contain from 11 to 15 per cent. of copper and 8 ounces of silver to the quintal; that of Fonbuena contains 18 per cent. of copper, and realises about 1s. 2d. the quintal of ore. The zinc is calamine from the Asturias, and blends from Guipuzcoa; this is sold at about 1s. the quintal. Tin is from three localities—Avion, in Galicia, Carrascal, in Zamora, and Orense. The ore is sold at about 15s. the quintal, and the metal at about 4½ the cwt. The antimony is from the Society la Marte, in Zamora, and from Ateca, in Saragossa, where it fetches about 1½ the quintal. Nickel is from the mountains of Casarabonela, near Malaga, where it is exported to Germany; the price at the port is about 2½ the quintal. The cobalt is from mines recently opened at Sierra de Baya and Albuñuelas, in Grenada. The series of mercury are from the well-known mines of Almaden and the Asturias. As this is a Government monopoly, the price is fixed by them, and taken by contract. The gold is from Girona; it has likewise been found in Grenada and Galicia. There are as well several specimens of coal from the Asturias—salts, sulphur, kaolin, marbles, alabaster, clays, &c. The marbles of Saragossa, when polished, are sold at from 2s., 5s., and 8s. the cubic vara; in the rough state, respectively, 4d., 2s., and 4s. These high prices are retained on account of the heavy cost of transport. The several silicious products are from the primitive countries, and contain the different varieties, as well as a bastard kind of topaz, sent from Salamanca, which is much used by the jewellers of the province.

We must compliment Don Ramon de la Sagra on the industry he has displayed in the compilation, which is a brief but complete history of the several sources of industry in Spain.

STEAM GENERATING.—Mr. A. Turner, Leicester, has patented a new method of applying heat for generating steam for motive-power, and for other purposes, and in generating heat, and in heating and evaporating fluids. These improvements consist in combining with the use of retorts for generating gas, by the distillation of coal or other matters, the heating of steam and other boilers, by employing for this purpose the otherwise waste heat from the retorts. The arrangement of retorts and boiler which the patented prefers (without, however, limiting himself thereto), is to employ two retorts, one over the other, heated by a furnace below, and to make the boiler of the wagon shape, but descending at the sides low enough to enclose the retorts and brickwork setting. The course of the heat, after acting on the retorts, may be controlled by flues, and directed around the whole exterior surface of the boiler. Another arrangement (adapted to cylindrical boilers) is to place the retort and setting in the central flue of the boiler, and to provide suitable flues for the passage and circulation of the heated products. It has been found to answer well and economically in practice, when the retorts are not required for gas-making, to allow the last charge to remain in them—a very trifling consumption of fuel in the furnace being then sufficient to maintain the requisite degree of heat for heating the boiler. **Claim.**—Combining the use of gas retorts with steam or other boilers.

ENORMOUS WATER PIPES.—Messrs. Neilson, of the Hyde Park Foundry, Glasgow, have to supply 35 miles of cast-iron pipes to Liverpool, for the supplying of that city with water. They are 3 ft. 10 in. in diameter, and 1½ in. thick: each length measures fully 12 ft.; and it may give some idea of their immense size, when it is stated that in every one there are nearly 4 tons of iron. Upwards of 1200 have already been shipped for Liverpool. As may be supposed, the casting of these enormous pipes is a matter of some difficulty: the operation employs a considerable number of hands; but the average number of lengths turned out does not exceed five per day, which involves a consumption of nearly 20 tons of iron. Every pipe before leaving the foundry is subjected to a severe test by hydraulic pressure, so that their strength is beyond doubt.

Original Correspondence.

THE TRUCK SYSTEM.

SIR,—The letter by Mr. Fothergill, in your last Journal, is just such a statement as I expected to see. I have no acquaintance whatever with any particulars of the case, except from the successive notices in your pages; but no person of ordinary penetration could fail to perceive, in reading the report of the meeting in your last, that there lay at the bottom the grand engine of our days—"false pretences." Bodies of shopkeepers are not liable to violent accessions of benevolence and determined attacks of disinterestedness. There is an old controversy with the political economists, whether it is best that large capital shall be made available for supplying the public with superior articles at inferior prices, or that small capitalists are at a gain of enormous profits to furnish worse goods at higher cost. Without ranging over the wide field this discussion embraces, it will certainly be admitted that in the particular case where the food and clothing of the labourer is in question, he at least ought not to be made to buy bad things dear for the support of a theory. You will permit me to say that I am certain an actual acquaintance with the dealings of the petty traders who prey upon the earnings of the working men in mineral districts would throw a new light upon your views of the present dispute. It may be very agreeable to suppose that the workmen who deal with them are immediately translated into a paradise of honesty, but unfortunately it is not true as a fact. Be assured—and it is a consideration deserving the greatest attention from the philanthropist as a deep and serious evil—that in general the labouring man pays for those necessities of life which are the all his hard earnings can command, from 10 to 20 per cent. more in price, besides inferiority of quality, than is given by those classes whose superfluities far exceed the value of the labourer's sole necessities.

It is a painful and a serious fact, that out of the pittance which the labourer wrests by the sweat of his brow one-fourth, in ordinary cases, passes away without himself or his family deriving any benefit from it. You would not regard the one side of the present question as outer darkness, and the other all *couleur de rose*, were you practically experienced in the manoeuvres by which the general shopkeeper gets the labourer into his power, and keeps him there under the screw of extortion. As one slight item in the account, you must not forget, where there are large bodies of men, there are also numbers of agents of different grades of scrupulousity, and almost as obvious to mercenary motives as any proprietors can be represented. Where the proprietors of large works will take the trouble to have a shop established for the men, and see that it is honestly conducted, it is an equally well-known and established fact that the labourers' earnings become of nearly double the value. The men know it and acknowledge it; and nothing, likewise, is better known than who it is that revile and attack such establishments. There is no great deal of compulsion required to lead the labourer to buy good things cheap. The real grievance which breeds complaint is felt by those who lose the power of compelling them to buy bad things dear. It is most right that there should be such a law as the Truck Act; it is of vital importance to the well-being of a country that the labourer should be secured in his hire, and protected from imposition. The present enactment was passed at a time when great abuses had arisen under the disorder of internal commerce, occasioned by the stagnation of the peace, the failure of the harvests, and the fearful depreciation of property, brought about by the legislative miscalculations of the anti-paper currency men. Enactments for the protection of labour can never be too explicit or severe, but the abuses which gave rise to that Act could not occur now, even were it absent or repealed; while, on the other hand, the abuses which do occur, and to which little or no attention is directed, because they have not received public currency and repute by the stamp of legislative reprobation, are to the full as oppressive to the working man, and even more so from the difficulty of laying the finger of law upon them. There is very little attraction to the proprietors of large works in the business of a general dealer. Honest agents are scarce enough for the absolute necessity of the works without the entanglement of such additional anxiety; but if the whole matter be inquired into without prejudice, it will be found there is no way in which masters can confer more substantial benefits upon their men than by shielding them from the competition of the petty trader; and that all that exaggerated language which party employs to compass its ends, is quite inapplicable to this subject. The labourers' necessities hold a very different position to the higher ranges of goods in the warfare of competition. They must be had; the shopkeeper knows it, and he acts accordingly. I am glad to hear that there is "a party widely disseminated, totally disinterested from pecuniary considerations," who are devoting themselves to the well-being of the labourer. The existence of so pure a combination is an improved feature in society, but until I know more of their doings than is revealed by the facts in Mr. Fothergill's letter, I cannot avoid recollecting the old definition, "that party is the madness of many for the gain of a few." The position realised by those ironmasters who have carried on their works during late years has been "the loss of the few for the gain of the many." This deserves a little consideration from those who are eager to serve the men by flourishes of exhortation against their masters. There has been quite little money enough to divide between the parties principally concerned, and there is neither moral duty nor obligation why a third should step in for a share. The terrestrial workmen have been living tolerably by their employers' loss; they could only boast of the same abridged footing as their diabolical masters were a portion of this maintenance sliced off for the celestial shopkeeper.—DAVID MUSHET: June 20.

THE "PRACTICAL MAN."

SIR,—Your correspondent of this designation has, during some weeks, so perseveringly (and, I think, as respects himself it will be admitted successfully) demonstrated that mining is totally devoid of science; that those who attempt to apply it to the subject have no light but that of fiction and fancy, and, therefore, are in that degree, worse than the practical man who is utterly in the dark; that, in short, the entire question is haphazard and confusion, without a single principle of common sense, and (aided by other correspondents) equally devoid of common honesty, his best argument amounting to this, that what he does not understand no one else can, that it is hardly surprising, under such an exposure, the mining market should, as it appears, have been depressed by gloom and melancholy, for we are justified in supposing that persons having a stake in such property may have taken the pains to wade through the interminable confusion of "A Practical Man's" demonstrations. At such a crisis it must, indeed, be a very great relief to read in your pages the lectures by Captain Charles Thomas, delivered at Camborne. They are a green spot in the desert, a light to the nearly shipwrecked mariner, and adventurers may take new courage, and lift up their drooping spirits at a discovery that matters are not quite so bad as they feared; that even in Camborne, which has been so assiduously represented as the head quarters of mining ignorance and perplexity, there is at least one "Practical Man" who can deal practically with the impracticable subject; who is able to see beyond the point of his pick, and capable of conducting his operations by fact and observation, under guidance of rational views and principles.

June 20.

DAVID MUSHET.

GALVANIC BLASTING OF ROCKS IN SCOTLAND.

SIR,—The valuable application of the galvanic current to this purpose has recently been making considerable progress in Scotland. Some of our best quarrying operations, especially in the dislodgment of large masses of rock, are now conducted with greater precision and safety than ever could be attained by the old method of blasting. I had the pleasure lately of witnessing one of these *monstrous* blast, at the Red-hall Quarry, near Edinburgh, wherein the great superiority of the galvanic blasting, by its simultaneous and unfailing effect, was well illustrated. Some of your readers may, perhaps, be interested in an account of this application, which occurred in the Grange Quarry, in the neighbourhood of Burntisland.

The spirited lessee of this extensive freestone deposit have for a considerable time back employed this patent agent in the blasting of rock, and some time ago there was an exhibition of the process on a somewhat magnificent scale. The mass of freestone which it was intended to dislodge was one which protruded from the face of the quarry, being a huge body of liver rock. On the upper surface of this mass, and in a line with the face of the quarry, from which it was to be severed, there were six vertical perforations, about 10 feet apart from each other. Each bore was 40 feet in depth, reaching to the bed on which the block reposed, and 300 lbs. of gunpowder were distributed amongst the six, thus giving 50 lbs. to each. The wires for conveying the subtle agent of ignition to the explosive material deposited in each perforation in the rocky mass having been properly adjusted, and connected with the galvanic machine, everything was ready for the experiment. The battery was then placed in the

trough containing the requisite acidulous solution, and the operator drawing the movable disc along the cylindrical rod which stretched across the top of the battery till it came in contact with the fixed disc, thus completing the galvanic circuit, the cartridge wires were quickly and simultaneously heated, the powder ignited, and the object was gained, the whole operation being eminently successful. There was no terrific explosion, and the enormous block thus dislodged moved quickly, but gently and quietly, forward on its bed. On examining the vast block which had thus been riven from its place, it was found that it had been completely separated from the parent rock in the rear, a fissure about 5 inches wide, and quite smooth on each side, reaching from the top down to the depth of 40 feet, while in front it overshot its bed to the same extent. This Cyclopean mass of beautiful sandstone measured 63 feet in length, 31 in breadth, and 40 in depth. Its cubic contents amount to 78,120 feet, which, at 14 cubic feet per ton, gives 5580 tons as its weight. The total length of wire employed in the operation measured about 500 feet. The battery used on this occasion was one of considerable power, the copper and zinc plates in it being 48 in number, each having a surface of 12 inches by 11. It was constructed by Mr. Kemp, of Edinburgh.—A. M.: Edinburgh, June 22.

BLASTING IN MINES BY ELECTRICITY.

SIR,—In a recent German paper mention is made of some experiments lately made at Geneva, under the superintendence of Capt. Fendt, of the Artillery, and in presence of General Dufour, and other officers, upon a new method of blasting in mines. The account given of the process is so short that one cannot well understand it. It is merely said that electricity is the agent employed, and that it is generated in a small box (a queer kind of statement), and conducted to the desired spot by means of a copper wire. By this arrangement Capt. Fendt, it is added, produced an explosion, at the distance of 600 ft., the instant the signal was given. The account concludes by stating that the method employed met with the approbation of all competent judges in such matters. Perhaps some of your correspondents may know something of the details of the method; if so, they would greatly oblige many persons by communicating the particulars through the Journal.

Are you aware that the workings at the celebrated old silver mines of Deutschbrod, in Bohemia, are about to be resumed—a company consisting of 149 members having been constituted for this purpose? Some information from there would also be desirable.—L.: Madrid, June 14.

LIQUEFACTION OF DIAMONDS.

SIR,—Having a channel of private conveyance for a letter, embracing some strictures upon a paper which appears in the *Mining Journal* of 7th June, signed "W. F. S.," I present it to your notice, in the hope that it may find insertion. In attempting to resuscitate the phlogistic doctrine of Priestley, and other philosophers, "W. F. S." has seriously misled himself and your readers, by asserting, amongst other fallacies, the identity of the operation of therron, *alias* caloric, *alias* common heat, with magnetic, galvanic, and voltaic electricity. "A metal (as he says) may be an earth *au generis*," or all metals may result from one identical earth or matter, modified into 50 varieties by its quantitative associations with the mundane formative elements—ELECTRON, PHOETON, THERMON, ASTRON, PHORIN, &c.—in the several states of oxide, and the equally compound metallic form. A metal may be—nay, in my opinion, unquestionably is—its oxide with a formative element (ELECTRO-ASTRON), substituted for, and taking the place in, the oxide of THERMO OXYGEN, denominated by the chemical folks anterior to Lavoisier "PHLOGISTON"—a word derived from the Greek for "I burn." This position of philosophy can be demonstrated by innumerable facts of precise science, and consequently and in like manner as the bond of matter which induces solidity, as opposed to the liquid and fluid conditions must be, as it is, antithetic and antagonistic to the ACTION or force that converts denser matter into less dense states and forms of matter, *phlogiston* (or whatever else it may be called) cannot be identical with electricity, or any of its congeneric bodies.

The great error which chemists commit is the assumption in general of the immaterial and correlative nature of the formative elements—ELECTRON, ASTRON, PHOETON, THERMON, PHORIN, &c.—instead of the more reasonable notion that these peculiar bodies are really ponderous, if not ponderable, substances, even as oxygen, hydrogen, and nitrogen are, and interchangeable, and capable of reciprocal combination with all denominations of matter in the 80,000 distinct compounds with which chemists are acquainted. Chemists there are, and have been, besides "W. F. S.," that opined, and do opine, the capability, nay, the necessity, of ELECTRON, and the other formative elements of matter, to combine with material bodies in general, both atomically and in molecular associations (the opinion of Sir Richard Phillips being exactly that of "W. F. S."); so that on this point "W. F. S." has originated no novelty. But he is akin to those whom he twits, for he, too, adopts a vulgar and obsolete error in his chemical expletives. He says "the alkaline bases have a much greater affinity for oxygen than for the electric fluid." Is it, then, true that substances between which there is a principle of kindred (otherwise than that of oxide ratios) have a greater disposition to combine chemically than those bodies which have fewest or no principles in common? If sulphuric acid would not combine with water, *discharging thereby an equivalent of its ingredient THERMON*, then "W. F. S." might rationally use the term, which signifies "kindred," or similarity of property, to express a predisposition to combine, which, till that impossible time may be better expressed by *antagonism*, affection, or differential oxygenic polarity, carbon could, therefore, be liquefied only by THERMON, the matter of heat, solidified by ASTRO-ELECTRON, the molecule-formative principle crystallised by PHOETON, and coloured by variations in the proportions of these formative elements with hydrogen, and other corpuscular elementary impurities.

Whilst I am a claimant on your indulgence, permit me to allude to the all-absorbing topic of "Foucault's supposed proof of the earth's rotation" to say that, having observed in 1849 that a pendulum, poised delicately by its centre of gyration, tended to, and at length oscillated in, the plane of the magnetic meridian *approximately*, I was not prepared otherwise than to dissent from Foucault's assumption. I had noticed, prior to this date, that clocks are subject to great variations of rate by changes in their position relatively to the direction of the magnetic needle; and since the vibrations of a pendulum are subject to the same physical laws as the oscillations of the magnetic guonon, it is not unreasonable to believe in this property of the pendulum in common with that of the compass needle. Paris, June 9. WM. RADLEY, Ch. E.

MERIONETHSHIRE SLATE AND SLAB QUARRY.—In the Masters' Court, on Wednesday, Mr. Hancock appeared to argue the case of Mr. Stephen Hooper, whom Mr. Hetherington (counsel for the official manager) sought to have settled on the list of contributories. It appeared that the directors of the company, exercising the powers conferred upon them by the deed of settlement, had declared the shares of Mr. Hooper, and other persons who had not paid up a call, forfeited, and directed that a new list of shareholders should be prepared. For this purpose a committee was appointed, who made out a list which did not contain the name of Mr. Hooper, and upon these grounds it was contended that that gentleman was no longer a member of the company, and consequently, was not liable to be fixed as a contributory. Upon the part of the official manager, Mr. Ernest, it was stated that the written notice of the forfeiture of the shares had not been given by the directors to Mr. Hooper. Such notice was expressly mentioned in the deed, and that, therefore, Mr. Hooper, it was argued, was not released from being a member of the company. His Honour said that, taking all the circumstances into consideration, and having regard to the fact that the board had directed notice, according to the deed, to be sent, he would not put Mr. Hooper on the list without being compelled so to do. It is said that above 40 other shareholders will be struck off, as the result of this decision.

INFRINGEMENT OF PATENT.—In the Court of Exchequer, on Wednesday, the cause, *Newton v. Vaucher*, was heard. The action had been heard before Mr. Baron Platt at the Liverpool Assizes, when a verdict was given for the plaintiff, but a rule nisi had been obtained, calling upon him to show cause why the verdict should not be set aside. The plaintiff had obtained a patent in 1843, for "improvements in the construction of boxes for the axles or axletrees of locomotive-engines and carriages, and for the bearings or journals of machinery in general," consisting of a soft metal, principally tin, to axle-boxes and bearings to diminish friction, and save wear and tear and oil. The defence was a previous patent in 1838, for "improvements in fire-engines, water-engines, and other hydraulic machines and apparatus for raising or propelling water and other fluids, some of which improvements are also applicable to steam-engines," and that plaintiff's patent was an infringement of this earlier one. The plaintiff contended that the two patents were perfectly distinct, his being to prevent friction, defendant's to prevent escape of fluids, as a metallic in lieu of the usual packing. A prior action was referred to, where plaintiff obtained a verdict in 1845 against the Grand Junction Railway Company for a similar infringement. The Court coincided with the two juries, and decided in favour of plaintiff, the rule nisi being discharged.

THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Dividends per Share Declared.	Last Paid.	Last Price.	Present Price.
5120	Alfred Consols (copper), Phillack	3	£ 1 1 to 5th April	40 6 0 May	13 1/2	16 1/2
1248	Ally-Crib (silver-lead), Talybont, Wales	5	—	0 2 6	10	—
1624	Balshewidden (tin), St. Just	11 1/2	8 6	0 9 8 April	7 1/2	7 1/2
4000	Bodford United (copper), Tavistock Devon	2 1/2	2 8	0 5 to March	100	—
64	Boscawell Downs (tin), St. Just	—	750 0 to May, 1849	—	100	—
100	Botalack (tin and copper), St. Just	192 1/2	440 0 to 5th April	5 0 to May	205 210	—
1000	Callington (lead and copper), Callington, Devon	28	6 0 to Sept., 1847	—	6 1/2	—
1000	Carn Brea (copper and tin), Illogan	15	203 0 to June, 1851	2 0 to June	105	—
1024	Chyprase, St. Enoder, Cornwall	3 1/2	2 6 8	—	6 1/2	—
326	Comfort (copper), Gwennap, Cornwall	65	1 0	—	41	—
1248	Condurow (copper and tin), Camborne, Cornwall	20	234 10 to March	8 0 to May	110	300 310
1024	Dolcoath (copper and tin), Camborne	252	855 14 to 1847	—	16	—
124	East Pool (tin and copper), Pool, Illogan, Cornwall	24 1/2	233 0 to 1843	—	176	—
94	East Wheal Crofty (copper), Illogan, Cornwall	125	42 10	—	120	—
124	East Wheal Rose (silver-lead), Newlyn	50	295 0 to 5th April	15 0 to May	550	—
494	Fowey Consols (copper), Tywardreath	40	—	—	30	—
3760	General Mining Company for Ireland (copper)	1 1/2	35 per cent. to June	0 10 0 per cent.	5 1/2	—
100	Goginan (lead), Cardiganshire, Wales	5	440 0	—	200	—
100	Great Consols (copper), Gwennap, Cornwall	1000	353 6 8 to January	7 10 to May	200	—
119	Great Work (tin), Gernoe	8	—	—	20	—
1024	Herodsfoot (lead), near Liskeard, Cornwall	24	25 0 to Feb., 1844	Feb., 1844	20	14 1/2 15 1/2
1000	Holmbush (lead and copper), Callington	24	1 0 to 9th Feb.	0 10 to April	20 1/2	20 21
1000	Leins (tin and copper), St. Erth	17	77 0 to 5th April	5 0	160	—
100	Levant (copper and tin), St. Just	—	620 0	20 0	700	—
100	Lisburne (lead), Cardiganshire, Wales	75	390 0 to 4th April	15 0	500	—
100	North Pool (copper and tin), Pool	45	50 0 to February	2 10 to May	155	—
140	North Roskear (copper), Camborne	10	1 1 to 5th April	—	650	—
6000	North Wheal Bassett (copper and tin)	1 1/2	374 0	0 10 to 4th June	25	—
1160	Paran St. George (copper and tin)	21 1/2	11 17 to February	1 0 to May	25	—
256	Providence Mines (tin), Uny Lelant	30 1/2	250 0	2 10	130	135
256	South Caradon (copper), St. Cleer	24	21 10 to 5th April	2 10	160	160
256	South Treguise (copper), Redruth, Cornwall	16	89 15	8 0	260	—
248	South Wheal Frances (copper), Illogan	80	2 15	0 10 to March	11 1/2 12	11 1/2 12
1024	Sperrin Consols (tin), St. Just, Cornwall	1 1/2	851 0 to February	5 0 to May	80	—
94	St. Ives Consols (tin), St. Ives	80	11 10	14 1/2 15	15 1/2 13	—
1000	Stray Park and Camborne Vein (copper), Cornwall	15	2 11 to July, 1847	—	4 1/2 4 1/2	—
9600	Tamar Consols (silver-lead), Boscawen	4	24 15 to January	1 0 to May	71	6 1/2 7 1/2
9600	Tinners (copper and tin), near Pool	7 1/2	—	—	15 1/2 16	—
256	Treleah (silver-lead), Menheniot	6	4680 15 to 1848	—	220	—
5000	Treleigh Consols (copper), Redruth	20	402 10 to 5th April	8 10 to May	200 195	195 200
96	Tresavean (copper), Gwennap, Cornwall	20	231 15	2 10 to May	110	107 10 12
120	Trethellan (copper), Gwennap, Cornwall	5	2 2 6	0 5 to March	8 1/2	—
120	Trevelick and Barriar (copper)	130	155 5 to February	2 10 to May	110	—
1024	Wellington (copper and tin), Perranuthnoe	6 1/2	225 0 to 1st April	10 0 to 3d June	405 407 1/2	392 1/2
256	West Caradon (copper), Liskeard, Cornwall	20	142 10 to 5th April	25 0	105	—
512	West Providence (tin), St. Erth	10	2325 10	0 10 to March	7 1/2	—
256	Wheal Bassett (copper), Illogan	10 1/2	4 0 to 5th April	2 0	20	—
256	Wheal Buller (copper), Redruth	10	179 0 to March	3 0	140	135 140
126	Wheal Friendship (copper) Devon	120	25 10 to 5th April	3 0	59	59 58 57
4000	Wheal Golden (lead), Penzance	2	22 10 to February	2 10 to May	87 1/2 90	—
430	Wheal Loe (lead and tin), Helston	—	190 10 to 5th April	5 0 to April	200	—
112	Wheal Margaret (tin), Uny Lelant	79	26 10	2 0 to May	58	59 60
512	Wheal Mary Ann (lead), Menheniot	5 1/2	4 5 to February	0 15	21 1/2	21 22
40	Wheal Owles, St. Just, Cornwall	200	—	—	20 1/2	—
940	Wheal Setaon (tin and copper), Camborne, Cornwall	10 1/2	—	—	—	—
194	Wheal Trolawny (silver-lead), Liskeard, Cornwall	10 1/2	—	—	—	—
520	Wheal Tremayne (tin and cop.), Gwennap, Cornwall	9 1/2	—	—	—	—
1024	Wheal Trolawny (tin and cop.), Gwennap, Cornwall	9 1/2	—	—	—	—
5200	Wicklow (copper), Wicklow	5	—	—	—	—

FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present Price.
5000	Altan Mining Company (copper), Norway	14 1/2	3 0 to Mar., 1844	—
10000	Brazilian Imperial (gold), Brazil	24 1/2	3 17 6 to Dec., 1844	—
12000	Cobre Copper Company (copper), Cuba	40	45 10 to Jan., 1851	31 to January
10000	Copiapu Mining Company (copper), Chile	14	3 0 to Oct., 1850	31 to Oct., 1850
2000	General Mining Association (iron & coal), Nova Scotia	20	6 10 to June, 1851	10s. June, 1851
2700	Marmato (gold), Colombia	2 1/2	2 0 to June, 1851	17 to June, 1851
5051	Mexican Company (silver), Mexico	59 1/2	0 8 to end of 1846	4s. in 1846
7000	Royal Santiago (copper), Cuba	10	33 4 0 to July, 1846	—
1000	St. John del Rey (gold), Brazil	18	12 17 6 to Dec., 1844	16,500 to June 7
43174	United Mexican (silver), Mexico	AV. 38 1/2	1 12 6 to Feb., 1851	7s. 6d. Feb., 1851

Shares.	Mines.	Paid.	Last Price.	Present Price.
1024	Appledore (silver-lead and cop.) St. Ives	2	3	—
940	Balnoon Consols (tin), Uny Lelant	—	3 1/4	—
5000	Bargilly (lead), Cairnmore	—	1	—
905	Baristown (lead), Carrick	5 1/2	5	—
2650	Bayview (copper), Liskeard	24	3 3 1/2	—
956	Berriow (copper), Liskeard	24	10	—
1800	Bishopstone (silver-lead), Glamorganshire	24	10	—
32	Black Burn, Alston, Cumberland	15	100	—
5000	Black Craig (lead), Kirkcudbrightshire	5	5	—
8000	Blaenavon (iron), South Wales	50	12 1/2	—
1024	Bodmin Consols (lead), Wadebridge	6	5	5
5000	Bodmin Moor Consols (tin and copper)	7	10	5 1/2 5
1024	Bodmin Wheel Mary (copper), Bodmin	1	5	10
6000	Bolancon (copper), St. Just	24	40	—
40	Bolwall and Nanpean (tin), St. Just	1	5	—
1024	Bortington Park (silver-lead), Plympton	12 1/2	12 1/2 13	12 1/2
2400	Boscan (tin), St. Just	1	2	—
1024	Bottle Hill (copper) Plympton	1	1 1/2	1 1/2
385	Brifford Consols	1	1	—
10000	British Iron, New, regis. (iron)	12	8	—
3000	Broudford (lead), St. Just	10	12 1/2	1 1/2 1 1/2
2400	Bryn-Arian (lead), Cardiganshire	2	3	—
1000	Bryntall, Llanidloes, Montgomeryshire	24	17 1/2 18	—
107	Budnick Consols (tin), Penzance	5 1/2	9	3 4
812	Butterdon (lead), Menheniot	3 1/2	7	6 1/2 7
3000	Bwlch Consols (silver-lead), Cardiganshire	4	4 1/2	—
1000	Cao-Gwyn (silver-lead), Cardiganshire	1	4 1/2	—
4000	Calstock United (copper)	5	6	5 6
3000	Calty (copper and lead), Kirkcudbrightshire	7	1	—
1000	Camborne Consols (copper), Camborne	7	4 1/2	—
20000	Cameron's Steam Coal (coal), Swansea	10	2 3 1/2	—
1168	Caradon Great Cons. (cop.), Llanidloes	7	3	—
1536	Caradon Vale (copper and lead), St. Ives	2 1/2	1 1/2	—
1000	Carbona (tin and copper), Crowan	5	5	—
512	Carn Valley, Morvah	1 1/2	3	—
5120	Carn Valley, St. Dennis	1	2	—
1600	Cartwheel Consols (cop. & lead), Wadebridge	4 1/2	6	—
1056	Carvansall (copper), Gwennap	8	5	—
2000	Cassandra Anne (lead & cop.), Stoke Clims	0	5 1/2 6	—
200	Cefn Bruno (lead), Cardiganshire	13	84	—
5000	Cefn Gwyn (silver-lead), Cardigan	1	—	—
1024	Ciljath and Wentworth (tin & cop.), Redruth	1	5	—
2510	Cook's Kitchen (copper and tin), Illogan	15 1/2	7	8 9
1000	Copper Bottom (copper), Crowan	7	7 1/2	8
900	Court Grange (silver-lead), Cardiganshire	10	12	—
211	Cradock Moor (copper), St. Cleer	29	9 1/2	—
1600	Craig-Mwyn (lead), Llanidloes, Mont.	20	10 1/2	—
256	Crane and Belwara (copper), Camborne	20	30	—
1000	Cwm Daren (lead), Cardiganshire	1	3	—
3000	Cwm Erfin (lead), Cardiganshire	6	3 1/2 4	—
3000	Cwm Setaon	—	4	—
128	Cwmystwith (lead), Cardiganshire	60	100	—
2000	Cyffnaudd Fawr (lead), Lanegryn	1	1	—
3000	Dalrhew (copper and lead), Brecon	1 1/2	10	—
1000	Daren (silver-lead), Cardiganshire	10	6 1/2	7
7100	Derwent (copper), Durham	10	8	—
5000	Devon Consols North (copper)	2 1/2	4	—
4160	Deron and Courtenay Consols (copper)	1 1/2	1 1/2	1 1/2 2
760	Devon Great Tincroft, North Bovey	1	6	—
1000	Dhurood (copper) Ireland	2	5	—
672	Ding-Dong (tin), Gulval	5	7 8	—
4000	Dolfrwynog (copper), Merioneth	1	1	—
2500	Drake Walls (tin and copper), Calstock	6 1/2	5	—
128	Drift Moor (tin), Sancerre	1	1 1/2	—
1636	Duke of Cornwall (copper), St. Wilton	1	1	—
3000	Dyfnwain (lead)	10	10	—
1024	East Balshewidden (tin), Sancerre	1 1/2	2 1/2	—
256	East Bassett (copper) Redruth	10	17	—
2048	East Boringdon Park	3	4	4 1/2
1024	East Buller (copper), near Redruth	3	4	—
128	East Carn Brea (copper), Redruth	4	3	—
2048	East Crowndale (tin), Tavistock	7 1/2	3	—
300	East Daren (copper), Cardiganshire	13	30	—
256	East Godolphin (copper), Crowan	17 1/2	21	—
4000	East Gwinn Lake Junction (copper)	4	2	2
256	East Setaon and Wheal Maude, Redruth	4	1 1/2	—
9000	East Tamar Consols (silver-lead)	1 1/2	1	—
256	East Trevelick (copper), Redruth	4	10 1/2	—
1000	East Trevelick	1	2 1/2 3 1/2	—
256	East Tywardreath (copper), St. Agnes	11	3 1/2 4	5
1024	East Wheal Frances (copper), Illogan	4 1/2	4	—
2048	East Wheal Josiah (copper), Tavistock	14	1	—
512	East Wheal Loe (copper)	8	13	16 1/2 14 1/2
1024	East Wheal Margaret (tin and copper)	2	1 1/2 1 1/2	—
3 00	East Wheal Raseleigh, Llanreath	18	3 6 1/2	—
1000	East Wheal Reeth	—	12	—
4000	East Wheal Russell	8 1/2 6 1/2	8	—
1390	Egare Lles Llanfihangel-y-Crothyn	4 1/2	5 1/2 6	—
1024	Emoor-Lisa (copper), South Alton	4 1/2	5	—
6000	Forest (copper and lead), Devon	2 1/2	1	—
1024	Fredd Llydd Mines (lead)	12	3 1/2	—
2560	Garras (silver-lead), near Truro	5 1/2	2 1/2 3	—
5000	Garras (lead), Flint	—	1 1/2 1 1/2	—
1000	Gelli-rin (silver-lead), Cardiganshire	1	5	—
2500	Georgia Consols (tin), St. Ives	2 1/2	7 1/2	—
3500	Goussiers (copper), St. Cleer	46	12	—

Shares.		Paid.	Last Price.	Present Price
600	Tregardock (lead), St. Teath.....	1	5	.....
1120	Tregorden (silver-lead) Wadebridge	3 1/2	5 1/2	6
1000	Treloweth, St. Erth.....	4 1/2	6 7	.....
600	Trelva Consols (tin), St. Ives.....	4	5 6	.....
1024	Tremar (copper), Liskeard	10	5	14
2000	Trenance (copper), Helston	6	5 1/2	.....
6000	Trenault (lime quarries)	21 1/2	21 1/2	.....
512	Trethery (copper), St. Cleer.....	9 1/2	5 1/2	5 1/2
512	Treville (lead), Lewannick	2 1/2	7	7
604	Trowan Consols (tin), Towenedock	7	10	10
100	Trumpet Consols (tin), near Helston,	95	100 105	.....
1000	Tyllwyd (lead), Cardiganshire	2	2 1/2	.....
4000	Tyn-y-Worglod (slate), near Carnarvon..	4	4 5	.....
500	Tywardreath (cop.), Illogan & St. Agnes.	60	31 1/2	.....
512	Tywardreath (copper), St. Blazey	2	10	.....
1024	United Mines (copper and tin), Tavistock	10	10	.....
200	United Mines (copper), Gwennap	300	92 1/2	.....
5000	Warleggan Consols (copper)	2	2	2
1024	West Alfred Consols	7 1/2	19 18 1/2	18
5000	West Bassett (copper), Illogan	2	7	7
1024	West Beam (tin), St. Austell.....	14 1/2	6 1/2	.....
256	West Damsel (copper), Gwennap	5 1/2	58 57 1/2	.....
1024	West Ding-Dong (tin)	2 1/2	3 1/2	.....
1024	West Downs (copper and tin), Whitchurch	2 1/2	1 1/2	3
512	West Fowey Cons. (tin & cop.), St. Blazey	40	60	.....
2048	West Goginan (silver-lead), Cardiganshire	13	3	3
1020	West Nantymwyn	1	3 1/2	.....
1024	West Par Consols (copper), St. Blazey ..	10	11	.....
1024	West Phoenix, Linkinghorne	4	4	4
12500	West Polgoth (tin), St. Ewe & St. Mewan	1	1	.....
200	West Setaon (copper), Camborne	67	115 120	.....
256	West Sharp Tor (copper) Linkinghorne ..	22	49	.....
3000	West Shepherd (silver-lead and copper)...	2 1/2	2	.....
940	West Tolguise (copper), Illogan	13 1/2	5 1/2 5 1/2	5
120	West Trethellan (copper), Gwennap	15	20	.....
5000	West Wheal Alfred	7	14	1 1/2
5000	West Wheal Francis (copper), Illogan ..	7	15	.....
4000	West Wheal Friendship (copper)	7	15	.....
3715	West Wheal Jewel (tin and copper)	12	1 1/2 1 1/2	.....
2048	West Wheal Rose	2	2	2
4000	West Wheal Russell	1	2	.....
500	West Wheal Towan (copper), Illogan	15	14 15	.....
1024	West Wheal Treasury (copper), Gwinear	8	4	.....
1024	West Wheal Virgin (tin), Saneered	1 1/2	1 1/2 2	.....
1024	Weston (lead), Cherbury, Shropshire.....	2	2	.....
1070	Wheal Adams (lead), Christow, Exeter ..	15 1/2	16	.....
1000	Wheal Agar (copper), Illogan	6	5 1/2	.....
300	Wheal Cupid (lead), near East Wheal ..	17	40	.....
1228	Wheal Arthur (silver-lead & cop.), Calstock	1	3 1/2	.....
3072	Wheal Augusta (tin), St. Just	1	1 1/2 2	.....
240	Wheal Bal (tin), St. Just	5	16 17	.....
5000	Wheal Caradon (copper), St. Cleer.....	1	1	.....
256	Wheal Carpenter (tin), Gwinear	1 1/2	6 7	.....
1024	Wh. Carpenter (lead & cop.) S. Sydenham	2	3	.....
124	Wm. Castle and Boswedden (tin & copper)	5	20	.....
1024	Wheal Chiverton (copper)	1	1 1/2	.....
1024	Wheal Crebor (copper), Tavistock	2 1/2	4 1/2	5
1024	Wheal Cupid (copper), Gwennap	1	6	1 1/2
3000	Wheal Dora (tin & cop.), St. Cleer.....	19	6	6
182	Wheal Elizabeth (copper), Redruth.....	3	7	6
1024	Wheal Enilly (antimony and lead)	3	5	.....
182	Wheal Enys (lead), St. Erme	12	20	.....
1070	Wheal Enys	1 1/2	—	.....
1024	Wheal Forssaeue (copper), Tavistock ..	5	1 1/2	.....
764	Wheal Franco (copper), near Tavistock..	14	11	.....
100	Wheal Friendly (tin), St. Agnes	70	65	.....